



An
Bord
Pleanála

Inspector's Report ABP-307117-20.

Development

Permission for changes to the dimensions of 9 previously permitted wind turbines, from a maximum hub height of 90m and rotor diameter of 101m with a maximum turbine tip height of 140.5m, to a maximum rotor diameter of 138m with a maximum turbine tip height of 156m and to adjust the location of 3 turbines. Provide 1.9km of new internal wind farm access roads and underground cable route connecting proposed turbines to the Knockranny substation at Letter

Location

Seecon, and other townlands, Co. Galway.

Planning Authority

Galway County Council.

Planning Authority Reg. Ref.

19/1481.

Applicant(s)

SEE Renewables & Coilte.

Type of Application

Permission.

Planning Authority Decision

Grant with Conditions.

Type of Appeal	Third Party
Appellant(s)	Valerie Butler Cam, Jackie & Eimer Walsh Doon East Residents Association
Observer(s)	L. Skuce & Others Wild Ireland Defence CLG.
Date of Site Inspection	22/07 & 10/09/2020.
Inspector	A. Considine.

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1.0 Site Location and Description

- 1.1. The subject site comprises part of the Galway Wind Park and is located across a number of rural townlands in the eastern area of Connemara, Co. Galway, to the north west of Galway City. These townlands include Derradda, Seecon, Shannapheasteen, Ugool, Letter and Finnaun. The site lies to the west and south of the N59 road which connects Galway City to Maam Cross. The Wind Park itself is accessed off the third-class road which connects Rossaveel in the south west to Oughterard in the north east.
- 1.2. The site lies approximately 9km to the south west of the town of Oughterard and 7km from the National Primary Road, the N59.
- 1.3. Access to the turbines is via existing forestry roads and roads constructed as part of permitted wind energy developments in the area. These roads are generally accessible to the public and are used for walking and mountain biking. Part of the Connemara Walking Route also crosses the site. This area of Connemara comprises a plateau in the uplands of the Connemara Mountains, with forestry at the lower levels. Bogs are also a feature in this area and while there are a number of permitted wind energy projects in the vicinity of the site, forestry and agriculture are the primary land uses.
- 1.4. The site has a stated area of 76.07ha and extends approximately 6km from the northern point to the southern point. The site generally comprises the existing tracks associated with the permitted windfarms and the sites of the turbines, permitted and proposed relocated locations. A total of 134 turbines have been permitted to date in the wider area, and are all included within the Galway Wind Park, with 58 currently operational:

Name	Planning Ref	Status	No. of Turbines	Tip Height
Seecon	ABP PL07.239118	Under Construction	23	140.5m
Knockalough	ABP PL07.240612	Under Construction	7	126m
Ugool	PA ref 11/1735	Constructed	16	140.5m

Lettercraffroe	PA ref 10/1454 PA ref 13/375	Under Construction	8	130m
Cloosh	PA ref 10/303	Under Construction	22	140.5m
Inverin	PA ref 96/1684	Constructed	5	71.5m
Lettergunnet	ABP PL07.235051 & PL07.234861	Constructed	10	99.5m
Shannagurraun (Letterpeak)	ABP PL07.238762	Constructed	7	119m
Knockranny	ABP PL07.243094	Permission Granted	11	140.5m
Ardderroo	ABP 303086-18	Permission Granted	25	178.5m
Total			134	

The current proposal relates to the permitted Seecon Wind farm, permitted by An Bord Pleanala under ABP ref PL07.239118 and the Cloosh Windfarm permitted under PA ref 10/303 and 11/429.

2.0 Proposed Development

2.1. Permission is sought, as per the public notices for a 10 year permission for development at Derradda, Seecon, Shannapheasteen, Uggool, Letter, Finnaun. The development will consist of the following elements;

- A change to the dimensions of nine previously consented turbines (Galway County Council Planning Reference 10/303 and 11/429 (Cloosh) and An Bord Pleanala Planning Reference PL07.239118 (Seecon)) from a maximum hub height of 90m and rotor diameter of 101m with a maximum turbine tip height

of 140.5m, to a maximum rotor diameter of 138m with a maximum turbine tip height of 156m;

- Adjust the locations of three turbines as follows:
 - T9 moved 6m,
 - T30 moved 16m
 - T40 moved 16m;
- Provision of 1.9km of new internal wind farm access roads, localised upgrades to existing access roads;
- Underground cable route connecting proposed turbines to the Knockranny substation at Letter, on or adjacent to existing wind farm roads;
- Three new borrow pits located adjacent to proposed T19, T20 and T31 for rock excavation and peat deposition;
- Extension of two existing / permitted borrow pit for the excavation of rock and the deposition of surplus peat material.

All on a site of approximately 76.07ha. An Environmental Impact Assessment Report and & Natura Impact Statement has been prepared and accompanies this application all at Seecon, Finnaun, Co Galway.

2.2. The application included a number of supporting documents including as follows:

- Plans, particulars and completed planning application form
- Environmental Impact Assessment Report
- Letter of consent from landowner – Coilte

2.3. The proposed development, Galway Wind Park Phase 3 project, seeks to alter previously permitted turbines within the Cloosh Wind Farm and the Seecon Wind Farm as follows:

- Cloosh Wind Farm:

Permission granted for 22 no. turbines of which 20 are constructed with a total tip height of 140.5m. The current application seeks to change the dimensions

of the 2 consented but unbuilt turbines with 4.2MW machines which will have a maximum rotor diameter of 138m and a maximum tip height of 156m.

- Seecon Wind Farm:

Permission granted for 23 no. turbines of which 16 are constructed with a total tip height of 140.5m. The current application seeks to change the dimensions of the 7 consented but unbuilt turbines with 4.2MW machines which will have a maximum rotor diameter of 138m and a maximum tip height of 156m.

- The grid connection for the proposed turbines can be facilitated by one of two possible grid route options and one connection point. Both routes commence at T36, one of the currently proposed turbines.
 - Grid Route Option A extends beside and within wind farm and forestry roads to the connection point.
 - Grid Route Option B follows a similar route with some of the route extending through transitional woodland and open spaces with little or no vegetation.
 - The connection point will include a loop-in connection to the permitted Ardderroo substation, permitted under ABP ref 303086-18, before continuing to Knockranny substation. The grid connection will consist of the construction and operation of an underground electrical cable up to 110kV.
- The development will include the felling of an area of approximately 26.2ha to accommodate the project. Replanting will be required and will include land within the Galway Wind Park as well as a site in Co. Roscommon.

The development will provide an additional 37.8MW of renewable electricity to the National Electricity Grid. Should permission not be granted for the alterations proposed, the 9 turbines will be built and operated as per the current consents.

- 2.4. The Board will note that the applicant submitted unsolicited further information to the Planning Authority, seeking to address the issues raised in the third-party submissions.

- 2.5. Further information was sought by the PA in relation to a number of issues in the NIS and EIAR. This request issued on the 19th November 2019. A response to the request was received by Galway County Council on the 3rd March 2020 and included a revised NIS which fully assessed and incorporated a final CEMP.
- 2.6. The Board will note that the response to the further information request was not re-advertised. Having reviewed the submission, I am satisfied that the response to the further information request did not present significant additional data and therefore, there was / is no requirement to give additional notice under Article 35 of the Planning and Development Regulations 2001, as amended.

3.0 Planning Authority Decision

3.1. Decision

The Planning Authority decided, on the 27th March 2020, to grant planning permission for the proposed development subject to 24 conditions.

3.2. Planning Authority Reports

3.2.1. Planning Reports

The Planning report considered the proposed development in the context of the details submitted with the application, internal technical reports, third party submission, planning history and the County Development Plan policies and objectives. The report also includes both an Environmental Impact Assessment and an Appropriate Assessment Report.

The initial Planning Report noted that the proposed development notes that the site is located within the area of the County which has been designated as a 'strategic area' in terms of wind energy. As such, the principle of the proposed development is acceptable subject to normal planning considerations. The report concludes that further information is required in relation to the development due to the reliance in the NIS for a number of reports to be carried out prior to the commencement of the development. In this regard, the applicant was requested to submit an updated Natura Impact Statement to incorporate the necessary reports to ensure that there

are no lacunae in the information. In addition, the report sought an updated Peat Stability Survey, a detailed traffic management plan and a detailed method statement for shadow flicker mitigation / elimination at identified sensitive receptors.

Following the submission of a response to the FI request, the final planning report concludes that the information submitted addresses the concerns raised and that the proposed development is acceptable. The Planning Officer recommends that permission be granted for the proposed development, subject to 24 conditions. This Planning Report formed the basis of the Planning Authority's decision to grant planning permission.

3.2.2. Other Technical Reports

Environment Section: A significant concern relates to the potential effects of the proposed development on the watercourses within and downstream of the proposed site. The report includes, as an appendix, the report from Inland Fisheries Ireland which was submitted to An Bord Pleanála in relation to ABP ref 303086-18. It is considered that their recommendations would be relevant to the current application.

If permission is granted, it is recommended that the conditions be applied in addition to the conditions recommended by IFI.

Roads Directorate: Requires that the developer consult with the relevant local authorities, PPP companies and maintenance contractors and submit a detailed traffic management plan.

The Board will note that the issues raised formed part of the PAs FI request.

Following receipt of the response to the further information request, the Roads Directorate submitted a further report raising questions on the reinstatement of the junction off the N59 to the L54534, which is a temporary access.

The report includes 3 conditions for inclusion in any grant of planning permission.

3.2.4. Prescribed Bodies

DoCH&G: Given the extent of the development, it could impact on subsurface archaeological remains. In line with National Policy, archaeological monitoring is recommended. Condition attached.

TII: Notes that the haul routes include traversing sections of the N69, M/N18, M/N6 and N59 national roads. It is recommended that the applicant consult with the relevant road authorities and other relevant bodies in terms of operational requirements.

Any works, including reinstatement works, to existing junctions on the national road network shall comply with relevant standards and shall be subject to Road Safety Audit as appropriate. Licences and other consents may be required.

Concern is raised that the EIAR documentation does not include a technical load assessment of structures on the haul route to support the proposed development. An assessment review of all structures is required to confirm that they can accommodate the proposed loading associated with the delivery of turbine components.

With regard to cabling / trenching, it is noted that the grid connection proposals do not appear to impact on the national road network in the area. Cabling routing should avoid all impacts to existing TII Infrastructure such as traffic counters, weather stations, etc and works required to such infrastructure shall only be undertaken in consultation with and subject to the agreement of TII. Any costs attributable shall be borne by the developer. A licence may be required from the road authority for any trenching or cabling proposals on the road network.

Following the submission of the response to the FI request, the TII submitted a further report. This report notes that the response addresses items included in the TIIs initial

observation. The initial observations set out in the Authority's submission remains the position of the Authority.

3.2.5. **Third Party Submissions**

There are 11 no. third party objections/submissions noted on the planning authority file, one of which includes multiple signatories. The issues raised are summarised as follows:

- Objects to any more wind turbines in the area.
- When the turbines are being delivered the noise and flashing lights wakes residents between 2-3am and again at 6-7am.
- Dirt and dust from traffic has not been managed in the past.
- Structural impact on houses and infrastructure from traffic transporting the turbines.
- No consultation with residents and previous promises not upheld
- Impact on the roads and residential amenity
- Psychological impacts associated with the development
- Impact on property value
- Loss of light, overshadowing, overlooking and loss of privacy, impact on visual amenity, adequacy of parking & highway safety, traffic, noise and disturbance resulting from use and hazardous materials.
- Health issues caused by current operations due to pollution
- Suite of non-compliance issues in relation to roads, dust monitoring, lack of communication, hours and days of working – including Sundays.
- The Community Fund promised has not come to fruition.
- Environmental impacts in terms of frogs, heron, bogland grasses and grass birds.
- Accountability issues
- Impacts on horse riders in the area.

- Flooding issues due to altered water flow.
- There is an alternative access available which should be considered.
- Proposed cable routes through private property are not identified on the site layout map. Although requested, no permission was given.
- Issues raised with site notices and no Irish Language.
- Impact of felling on the water quality should be considered as part of an Appropriate Assessment.
- The replanting should all take place locally.
- Visual impact assessment inadequate.
- There are 2 White Tailed Eagles nesting in Seecon which will be killed if larger turbines are permitted.
- Mobile, broadband and TV signals have been affected
- It has been shown that turbines have no effect on CO₂ emissions.
- Impact of turbines on tourism of the area.
- Larger turbines will set a precedent.
- Planning documents submitted are incomplete and contain inaccuracies, errors and omissions that compromise the PAs ability to determine the planning regulations, assessments, licences and consents that are legally required in order to allow the application to be considered.
- The development is an alteration of the previously permitted development and not a 'new' application. It should be in compliance with planning conditions.
- Cumulative impact issues raised.
- Data and planning policies relied upon by the applicant appear to be outdated.
- Lack of consultation with statutory consultees.
- The application does not reflect the 'Precautionary Principle'.

4.0 Planning History

The following is the relevant planning history pertaining to the subject site:

ABP ref PL07.239118 (PA ref: 11/429): Permission granted for a 10 year permission for windfarm comprising 23 no. wind turbines with a total tip height of 140.5m and ancillary development all at Seecon and other townlands, south of Oughterard, County Galway.

Permission expires on the 31st October 2021.

PA ref 10/303: Permission granted for the development of a 22 turbine windfarm with a total tip height of 140.5m at Cloosh, Co. Galway.

Permission expired on the 6th June 2020. The Board will note that when the application for the proposed amendments was lodged with Galway County Council, the permission was still valid.

In the wider area, the Board will note that planning permission has been sought / permitted for a number of wind energy projects, including as they relate to the permitted Uggool, Cloosh and Lettercraffoe wind farms, as well as the Seecon wind farm to which the subject appeal relates. The wider area has had permission granted for 134 wind turbines and is known as the 'Galway Wind Park. In addition to the permissions for turbines, other key applications within the site include improvements to the Galway Wind Park turbine delivery route along the Doon Road and a 110/38kV electricity substation to act as a connection node for the wind farms in the area. A full list of planning history files is provided in appendix 1 of this report.

5.0 Policy and Context

5.1. National Policy

5.1.1. National Planning Framework – Project Ireland 2040, DoHP&LG 2018

The National Planning Framework – Project Ireland 2040 is a high-level strategic plan for shaping the future growth and development of Ireland to 2040. The NPF sets out a vision for Ireland to 2040, expressed through ten National Strategic Outcomes (NSO). One of the key goals of the NPF (National Strategic Outcome 8) is that of

Transition to a Low Carbon and Climate Resilient Society. It acknowledged that Ireland's energy policy is focussed on the pillars of sustainability, security of supply and competitiveness.

5.1.2. **Climate Action Plan, 2019**

This Plan seeks to realise a 30% reduction in greenhouse gas emissions and increase reliance on renewables from 30% to 70% thereby adding 12GW of renewable energy capacity by 2030 whilst phasing out fossil fuels.

Section 7 deals with Electricity and it states that that up to 8.2GW of the renewable energy target (70% & 12GW) could be met by on-shore wind capacity.

Section 11 deals with Agriculture, Forestry and Land Use which it identifies as a source of carbon emissions and also as having the potential to sequester carbon. Subsection 11.3 identifies a range of measures to deliver targets for a reduction in greenhouse gas emissions, including the better management of peatlands.

5.1.3. **Wind Energy Development Guidelines for Planning Authorities 2006:**

These Guidelines offer advice to planning authorities in terms of wind energy developments as they relate to the Development Plan and development management processes. They are intended to ensure a consistency of approach throughout the country in the identification of suitable locations for wind energy development and the treatment of planning applications for wind energy developments. Some of the main topics covered are as follows:

- The need to identify suitable areas in development plans:
- Making and assessment of planning applications, including suggested conditions.
- The siting and design of wind farms including advice for different types of landscapes.
- Chapter 5 addresses the environmental implications of wind farm developments and in particular the impact on designated sites, habitat and species. The bird species considered most at risk are raptors, swans, geese, divers, breeding waders and waterfowl, with migratory birds and local bird movements also

important. The impact on other species, particularly those listed for protection, needs also to be assessed.

- Visual impact is among the more important considerations and advice is given in chapter 6 on spatial extent, spacing, cumulative effect, layout and height. There is an emphasis on the distinctiveness of landscapes and their sensitivity to absorbing different types of development
- Other impacts on human beings such as noise and shadow flicker, as well as set back from sensitive receptors.

Guidance is also given in terms of natural heritage, archaeology, architectural heritage, ground conditions, aircraft safety and windtake. The Guidelines do not establish setback distances, but it is stated that noise is unlikely to be a significant problem where the distance to the residential property is more than 500m. In respect of noise, the recommended standard is a lower fixed limit of 45dBA or a maximum increase of 5dBA above background noise and nearby noise sensitive locations, apart from very quiet areas where the daytime level is limited to 35-40dB(A). A night-time limit of 43 dB(A) is recommended.

In terms of shadow flicker, the recommended standard is a maximum of 30 hours per year or 30 minutes per day for dwellings and offices within 500m. It is further stated that at distances of greater than 10 rotor diameters, the potential for shadow flicker is very low.

5.1.4. **Draft Revised Wind Energy Development Guidelines, 2019**

The interim Guidelines do not replace or amend the existing Wind Energy Development Guidelines 2006, but it is intended that the administrative provisions contained therein will be incorporated into the revisions to the 2006 Guidelines when finalised. The key aspects of the preferred draft approach are:

- The application of more stringent noise limits, consistent with World Health Organisation noise standards, in tandem with a new robust noise monitoring regime, to ensure compliance with noise standards:

- A visual amenity set back 4 times the turbine height between a wind turbine and the nearest residential property, subject to a mandatory minimum distance of 500 metres between a wind turbine and the nearest residential property:
- The elimination of shadow flicker and
- The introduction of new obligations in relation to engagement with local communities by wind farm developers along with the provision of community benefit measures.

5.1.5. **Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy, and Climate Change (2017).**

These guidelines were issued under Section 28 of the Act. They focus on administrative procedures and do not replace or amend the existing WEDG 2006, which remain in place pending the completion of ongoing review. Section 28 of the Act requires both Planning Authorities and An Bord Pleanála to have regard to these interim guidelines and apply any specific planning policy requirements of the interim Guidelines in the performance of their functions.

5.1.6. **Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement (DCCAE, 2016)**

In December 2016, the DCCAE published a Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement. The Code cites ten key areas for delivery on the part of wind energy developers and includes measures relating to the various project phases and a guide regarding annual reporting.

5.2. **Regional Policy**

5.2.1. **Regional Planning Guidelines for the West Region 2010-2022**

The Guidelines note that the West region has the potential to harness opportunities in wind energy and related technologies. There are several policies to support the development of the wind energy sector and the grid network, ref. policies EDP20, 21 and 22. Objective ED08 aims to support the deployment of renewable energy

infrastructure in appropriate locations. Policy EDP71 aims to promote a green economy in the region through the sustainable development of renewable energy resources. Objective EDO23 aims to support eco projects, renewable energy and green business development in appropriate locations.

Infrastructure policy set out in the Guidelines states the following with regard to wind energy, ref. section 5.5.4:

“The West Region contains Ireland’s premier wind resource and holds the potential for the region to become a sustainable exporter of renewable energy. Areas identified for wind farms must have regard to the level of the resource, the nature of the landscape, the status of surrounding lands and the Department of the Environment, Heritage and Local Government’s Wind Energy Development Guidelines 2006.”

Objective IO54 aims to support the sustainable development of wind energy schemes through the initiation of a regional policy on wind farm location.

5.2.2. Regional Spatial & Economic Strategy – Northern & Western Regional Assembly 2020 – 2032

The Regional Spatial and Economic Strategy seeks to replace the RPGs and it based on a partnership, focusing on place-based regional economic development and effective regional planning. The Strategy seeks to be responsive to international trends, population trends and addresses community needs and ambitions. The RSES provides a high level development framework for the Northern and Western region which supports the implementation of the National Planning Framework and the relevant economic policies and objectives of Government.

5.3. Local Policy

5.3.1. Galway County Development Plan 2015-2021

The Galway County Development Plan 2015-2021 is the relevant policy document relating to the subject site. Chapter 7 sets out policy on energy and renewable energy. Section 7.2 states a strategic aim to reduce the county’s dependency on

imported fossil fuels and to provide alternative energy sources by harnessing the county's potential for renewable energy sources.

Section 7.4.2 notes the adoption of the county WES (Wind Energy Strategy) and states a policy to maximise wind energy development in areas designated as Strategic Areas, Acceptable in Principle Areas, and areas Open for Consideration in the WES, on a case by case basis subject to meeting specific requirements and guidance contained within the Strategy. Objective ER4 supports the sustainable development of appropriate renewable energy resources including wind energy.

Objective ER 5 - Wind Energy Developments states:

“Promote and facilitate wind farm developments in suitable locations, having regard to areas of the County designated for this purpose in the County Galway Wind Energy Strategy. The Planning Authority will assess any planning application proposals for wind energy production in accordance with the County Galway Wind Energy Strategy, the DoEHLG Guidelines for Planning Authorities on Wind Energy Development, 2006 (or any updated/superseded documents), having due regard to the Habitats Directive and to the detailed policies, objectives and Development Standards set out in the Wind Energy Strategy.”

Objective ER 6 states that the policies, objectives and development management guidelines/standards set out in the WES shall be deemed to be the policies, objectives and development management guidelines/standards for the purpose of the County Development Plan.

Section 9.10 sets out landscape policies and objectives. The upper part of the site is classified as having 'High' landscape sensitivity and the lower part of the site is classified 'Moderate' landscape sensitivity.

Chapter 13 of the County Development Plan sets out Management Standards and Guidelines for different types of development within the County. DM Standard 30 relating to wind farm development set out under Section 13.9 states:

“Planning applications for wind farm development shall be in compliance with DoEHLG Wind Energy Development Guidelines 2006 (including any new guidelines when issued) and the County Galway Wind Energy Strategy.”

5.3.2. Galway Wind Energy Strategy

The WES was originally adopted by Galway County Council on the 26th September 2011 as a variation to the Galway County Development Plan 2009-2015. It was then adopted with minor updates as Appendix IV to the subsequent Galway County Development Plan 2015-2021. The WES sets out a number of policies and objectives that seek to encourage wind energy developments at appropriate locations and to guide the location and design of new proposals.

The WES identifies the following hierarchy of areas according to their suitability for wind energy development, based on criteria including the available wind resource, access to grid, environmental and ecological designations and population / settlement patterns:

- **SA Strategic Areas:** Large areas in the most suitable locations for wind farm development and without significant environmental constraints, based on strategic level analysis. Wind farm developments will be encouraged in this area subject to detailed environmental and visual assessment and appropriate layout and design. Objective WE1 states that wind energy projects within this area must:
 - Demonstrate conformity with existing and approved wind farms to avoid visual clutter;
 - Be developed in line with the Planning Guidelines for Wind Energy Development (DoEHLG 2006) (and any updated document) in terms of siting, layout and environmental assessment;
 - Be accompanied by a HDA under Article 6 of the Habitat Directive where they may result in adverse effects on any Natura 2000 site;
 - Be developed in a comprehensive manner avoiding the piecemeal development of the land designated as Strategic Areas.

There is an objective to suitably manage land use and infrastructure development within this area to protect its scope for wind energy projects. The indicative target for wind energy generation from Strategic Areas is 220 MW but this is not a limit that cannot be exceeded.

- **AP Acceptable in Principle Areas:** Smaller areas in suitable locations for wind farm development and without significant environmental constraints, based on

strategic level analysis. Wind farm developments will be facilitated in these areas subject to detailed environmental and visual assessment for appropriate layout and design. Objective WE2 states that wind energy developments within this area must:

- Demonstrate conformity with any existing and approved wind farms to avoid visual clutter;
 - Be developed in line with the Planning Guidelines for Wind Energy Development (DoEHLG 2006) (and any updated document), in terms of siting, layout and environmental assessment;
 - Be accompanied by a HDA under Article 6 of the Habitat Directive where they may result in adverse effects on any Natura 2000 site;
 - The indicative target for wind energy generation from AP areas is 100 MW but this is not a limit that cannot be exceeded.
- **OC Open for Consideration Areas:** Areas with some locations that may have potential for wind farm development due to variable wind speeds or clustering with Strategic Areas but with significant environmental constraints, based on strategic level assessment. Wind farm development in these areas will be evaluated on a case by case basis subject to viable wind speeds, environmental resources and constraints and amenity, safety and cumulative impacts. Objective WE3 states that applications for wind energy development in “Open to Consideration” areas will be evaluated on a case by case basis.
 - **NP Not Normally Permissible Areas:** Areas generally not suitable for wind farm development due to their overall sensitivity and constraints arising from landscape, ecological, recreational, settlement, infrastructural and/or cultural and built heritage resources, based on strategic level assessment. Wind farm developments in these areas will be discouraged unless project level HDA and EIA can demonstrate to the satisfaction of the Planning Authority that environmental and other impacts can be successfully avoided, minimised and/or mitigated.
 - **LW Low Wind Speed Areas:** Areas with wind speeds less than 8m/s that would generally not provide viable locations for commercial wind farm developments.

The total land area proposed as Strategic Areas is 5,390ha and the area proposed as Acceptable in Principle is 6,994ha. Together, these areas constitute around 2% of the total County area. The majority of the subject site is located in a Strategic Area, with the remainder being within an Open for Consideration area.

Policy WE7 states:

“Proposals for wind energy development can be considered in all areas subject to meeting the specific requirements outlined in this Wind Energy Strategy. However, it is anticipated that most development proposals will be located in the Strategic Areas, Acceptable in Principle Areas and areas Open to Consideration and it is the policy of the Council to maximise Wind Energy development in all three of these areas on a case by case basis subject to meeting the specific requirements of this Wind Energy Strategy and taking account of any guidance contained in the Strategy.”

Table WE8 of the WES provides guidelines for separation distances for turbines in wind farm developments. This includes preferred minimum distances such as 500m from noise sensitive property, outside Natura 2000 sites subject to HDA and advice from NPWS; 100m from CAMP telecommunications masts; 100m from water’s edge of lakes and waterways; 100m from recorded monuments on RMP.

The WES provides details of potential impacts of wind energy development on habitats, birds, bats, freshwater species and habitats, peat, ground conditions and landscape susceptibility, amenity, landscape and settlement, transport, infrastructure and safety, construction and built heritage. Section 5.2.12 refers to the cumulative impact of wind farms and notes that the cumulative impact in particular in areas close to Natura 2000 sites will be carefully monitored over the lifetime of the strategy. Increases in the density of wind farm development within or adjacent to Natura 2000 sites will only be considered where it can be shown following AA that the development will not have an adverse effect on the conservation management objectives of the site. Section 5.3 deals with wind farm layout, design and construction. There are a series of maps which show the Strategic Area and other areas Acceptable in Principle and Open for Consideration in relation to landscape character areas, views, prospects etc.

5.3.3. Other Policy Documents

- National Mitigation Plan 2017
- Draft Renewable Electricity Policy and Development Framework 2016
- Adapting to Climate Change and Low Carbon Act 2015
- White Paper – Transition to a Low Carbon Energy Future for Ireland 2015-2030
- Strategy for Renewable Energy 2012-2020
- Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure, 2012
- National Renewable Energy Action Plan 2010
- Grid 25: A Strategy for the Development of Ireland’s Electricity Grid for a Sustainable and Competitive Future
- Grid Implementation Plan 2017-2022
- Draft Regional Spatial and Economic Strategy – Northern and Western Regional Assembly
- Galway County Development Plan 2015-2021 – Gaeltacht Plan

5.4. Natural Heritage Designations

The site is not located within any designated site. However, the Connemara Bog Complex SAC (& pNHA) (Site Code 002034) and the Connemara Bog Complex SPA (Site Code 004181) are the closest Natura 2000 sites and lie immediately adjacent to a number of the proposed turbine sites to the west.

The Lough Corrib SAC (& pNHA) (Site Code: 000297) is located approximately 2.5km to the north of the site while the and the Lough Corrib SPA (Site Code: 004042) is located approximately 7.8km to the north east of the site.

The Oughterard District Bog NHA, (Site Code 002431), is located within metres of the site to the east.

The Board will note that the planning application included a Natura Impact Statement and an Environmental Impact Assessment Report.

6.0 The Appeal

6.1. Grounds of Appeal

This is a multiple third-party appeal against the decision of the Planning Authority to grant planning permission for the proposed development. The issues raised reflect those raised with the PA during their assessment of the proposed development and are summarised as follows:

6.1.1. Valerie Butler on behalf of Marginalised Residents of Doon East:

- Acknowledgement and consideration of the submission to Galway County Council has not sufficiently translated in the conditions of permission.
- Issues raised have not been fully considered or addressed.
- It is requested that should the Board uphold the planning granted, that it be contingent on stringent and incontrovertible conditions to which the developer can be held accountable in the event of breaches.
- Most disconcerted by the complete absence of conditions requiring engagement with the residential community.
- Concerns raised arise from lived experiences and the residents object to the use of their road as the access route for further windfarm development.
- While there is no objection to renewable energy, the residents had assurances that the road would be used temporarily for the initial SEE windfarm.
- It had been believed that an alternative route would be sought for future developments given the impacts associated with the last development.
- The appeal, if development is permitted, sets out number of conditions which should be included in relation to:
 - communication with the residents of Doon East.
 - Ensuring that the Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement 2016 and updated guidelines are adhered to.

- As there will be 2 developments under construction at the same time, measures to ensure accountability so that each development is clearly identifiable are requested.
- Unarticulated nuisances will affect all residents – visual impact, health impacts, environmental impacts, quality of life, stress, etc.
- Any compensation measures should be applied equally to all residents without discrimination.
- In terms of the community fund, the application process for all funding should be transparent.

6.1.2. Cam, Jackie & Eimear Walsh

- Issues raised with regard to consultation with residents.
- Impact to human health in relation to:
 - noise and air quality – noise suffered during the delivery of the previous turbines had a highly negative impact on sleep and well-being of the family. The proposed larger turbines will mean extra weight and a longer heavier load. The noise and air pollution were unbearable before and it is inevitable that the larger loads will result in a horrific rise in noise and air pollution. The L-53453 is not fit for these weight-bearing loads.
 - Dust – Air quality had a significant impact on family's health with the development of sinus and respiratory issues, and heavy medical bills. With Covid 19, this now poses an extra concern.
 The concrete trucks produced a lot of dust which caused dust nuisance for properties and windows could not be opened for the duration of the project. Measures to resolve the dust issue resulted in contaminated water being sprayed on the road which was then brought into homes. The dust minimisation measures outlined in the EMP 10 Construction Dust Management, have been outlined before, and did not solve the problem. The applicant has shown a lack of respect for residents.
 - Outline Construction and Environmental Management Plan – Shows that the construction schedule states that working hours are likely to be

between 8am and 6pm Monday – Friday and between 8am and 1pm on Saturday. It is noted that these hours may be extended subject to consultation with Galway County Council. There is no proposal to discuss with local residents.

Previous experience shows that the schedules were not adhered to and resulted in two runs per night at one point, which affected families sleeping. Workmen were disrespectful and speed limits and health and safety issues were not adhered to.

- Traffic Safety issues caused great concerns during the previous project, including the use and volume of large trucks and other larger vehicles caused major disruption to residents.

There was an issue with a trespasser onto private property, who was party to the construction convoy, previously, and as an investigation by An Garda Siochana and SSE Renewables resulted in no outcome, the family live in fear. The proposal to prepare a Traffic Management Plan does not include any consultation with residents. The local road is not suitable for the traffic.

The widening of the road in the past attracted joyriders and there has been an increase in crime and joyriding in the area recently.

6.1.3. Doon East Residents Association

- Lack of community consultation.
- Previous experience with the applicant using the local road has resulted in the residents objecting to the application for permission.
- The EIAR raises a number of concerns as the same proposals put forward prior to the initial construction Galway Wind Park were not adhere to. This resulted in issues for the community in relation to pedestrian safety, disruption to work schedules, inadequate cleaning of the road and substantial traffic noise during all hours of the day and night. All of the traffic issues meant that leisure activities for residents were substantially curtailed.
- With regard to the Construction Dust Management, again, the applicant failed to adhere to the procedure set out in their plan and the community suffered as a consequence.

- The wheel washing machine was rarely used and was not replaced when it broke down.
- Dust monitoring was carried out, but the collection points were not fit for purpose. Collected measurements were not shared.
- Dust related health issues have occurred in previously health residents.

The applicant has demonstrated a complete lack of regard and consideration for the health, safety, general wellbeing and rights of the residents of Doon East.

6.2. Applicant Response

6.2.1. The first party submitted 2 responses to the third-party appeals. The second response was received outside the 4-week appropriate period and returned to the applicants' agent. The submission received on the 18th of June 2020 is summarised as follows:

Before addressing the points in the appeal, the applicant wishes to outline the following:

- All stages of the operational Galway Wind Park have been through the planning process and granted permission.
- Improvements to the junction at the N59 and Doon Road were the subject of a full planning permission, including upgrade works from Galway Port to Galway Wind Park, PA ref 13/658 refers.
- There is a dedicated Community Liaison Officer who is locally based and active in the community.
- The applicant began engaging with residents in February 2018 in relation to the proposed updating of the existing permission for the remaining turbines.
- The applicant has been aware of issues with the use of the local road for further construction phases and has been proactively working to develop solutions to the issues arising for the local community.
- SEE Renewables intend to reapply to Galway County Council to develop the Doon East Residential Area Bypass to address the concerns raised. It is submitted that the application will be submitted by Autumn 2020. If permitted,

this will have a positive effect in removing construction traffic from the Doon Road.

- SEE Renewables have address TII's previous concerns in relation to the bypass, which resulted in the development being refused by Galway County Council under PA ref 15/813.
- From a civil infrastructure perspective, the Doon Road is capable of facilitating the construction phase traffic as a consequence of previous upgrades.
- There will be no requirement for improvement works to Doon Road or to the Junction at the N59 in order to deliver Galway Wind Park Phase 3.

6.2.2. In terms of the appeal, the following is submitted:

- There has been communication with residents' and should the project be granted, the Construction Phase team will liaise with residents on a number of key elements.
- Assertions relating to private deals with other developers with a select few in the community cannot be addressed by the submission.
- The applicant confirms compliance with the Code of Practice for Wind Energy Development Guidelines. How the applicant complies with Community Engagement Guidelines is set out in the submission.
- The purpose of the EMP 10: Construction Dust Management is to describe the measures for the management of nuisance impacts on air quality from construction generated dust. The response to the appeal sets out the procedure and responsibilities in this regard.
- The applicant has complied with all statutory / regulatory obligations.
- In terms of Community Benefit, the applicants have contributed over €8.3M in funding since 2008 and assisted more than 2743 local projects. The Community Fund has been structured around supporting groups rather than individuals and is a voluntary fund.
- If the development is permitted, it will be constructed under the Renewable Energy Support Scheme (RESS). This scheme will define the value of the

Community Fund and how the fund is allocated. The model therefore is likely to change.

- If permitted, the applicant will meet with local residents to agree milestones and related activities for the key construction stages.
- The Galway Wind Park Community Fund is award winning and multi-faceted in its approach. The ethos of the fund is to support the community at large and not to compensate a few. The Fund has three separate strands. All community supports are delivered in an open and transparent manner and published on their website.
- All future funding administered will be logged on the National Community Benefit Fund Register which is being established by the Minister ensuring transparency for the public.

6.3. Observations

There are 2 no. observations to the multiple third-party appeals. The issues raised in the two observations reflect those of the appellants and the issues raised with Galway County Council during their assessment of the proposed development and are summarised as follows:

6.3.1. Leslie & Margaret Skuce:

- Object to the delivery of turbines through the village of Doon East, Rosscahill.
- Noise and dust issues raised due to traffic.
- Timings of deliveries disrupted sleep for residents who include cancer survivors and leaving certificate student.
- Previous works to facilitate the wind farm caused cracks in houses.
- Lack of consultation with residents from the applicant.

6.3.2. Mr. Peter Sweetman and on behalf of Wild Ireland Defence CLG

- The Environmental Impact Assessment and the Appropriate Assessment purportedly carried out by the Planning Authority do not comply with EU law as defined by the CJEU.

- CJEU Case C-254/19¹ &² is referred to
- As An Bord Pleanála is a judicial body, the observer expects the Board to assess the application including any unauthorised development carried out on the site.

6.4. Planning Authority Response

None.

¹ This Opinion of the Advocate General relates to the following questions which required clarification in the preliminary ruling procedure of the Irish High Court in relation to the proposed extension of the development consent to construct a liquefied natural gas regasification terminal at Ballylongford Co. Kerry:

Is the extension of a development consent, which is limited to a period of 10 years, by a further 5 years a plan or project within the meaning of that provision? Or are the original development consent and the extension to be regarded as a single operation, meaning that no further assessment is necessary?

² The Board will note that this case relates to a development which was granted permission in 2008, and where the formal decision made no reference to the Habitats Directive or the two European areas of conservation which lie adjacent to the site. No works had commenced on foot of the original grant of planning consent.

7.0 Planning Assessment

7.1. Introduction

Having regard to the nature of the proposed development, the details submitted with the planning application and appeal documents, and the planning history of the site, together with my site inspection, I conclude that issues arising for consideration should be addressed under the following headings:

- The principle of the proposed development & compliance with policy
- Roads & traffic
- Residential & general amenity issues
- Biodiversity
- Other issues
 - Replanting lands
 - Archaeology & Heritage
 - Peat Stability
 - Water Quality
 - Development Contributions

The Board will note that Environmental Impact Assessment and Appropriate Assessment are presented in separated sections of this report. There is reference to similar issues across all three assessments and therefore all three assessments should be read together.

7.2. The principle of the proposed development & compliance with policy:

- 7.2.1. Planning permission is sought for changes to the dimensions of 9 previously permitted wind turbines within the Galway Wind Park, located in Connemara, Co. Galway. The proposal seeks to amend the turbines from a maximum hub height of 90m and rotor diameter of 101m with a maximum turbine tip height of 140.5m, to a maximum rotor diameter of 138m with a maximum turbine tip height of 156m and to adjust the location of 3 turbines, T9, T30 and T40. In addition, the development

seeks to provide 1.9km of new internal farm access roads with localised upgrades to existing access roads. 3 new borrow pits will be provided adjacent to T19, T20 and T31 and two existing / permitted borrow pits will be extended for rock excavation and peat deposition. The development seeks to provide underground cable route to connect the proposed turbines to the Knockranny substation at Letter, on or adjacent to existing farm roads.

- 7.2.2. The development will see the installation of 9 x 4.2MW turbines which will have a maximum rotor diameter of 138m and a maximum tip height of 156m in place of the previously permitted machines which had a total tip height of 140.5m. If permitted, the development will provide an additional 37.8MW of renewable electricity to the National Electricity Grid.
- 7.2.3. In terms of the connection to the Grid, the Board will note that the applicant has submitted 2 options, both of which will commence at T36. Grid Route Option A extends beside and within wind farm and forestry roads to the connection point while Grid Route Option B follows a similar route with some of the route extending through transitional woodland and open spaces with little or no vegetation. The connection point will include a loop-in connection to the permitted Ardderroo substation, permitted under ABP ref 303086-18, before continuing to Knockranny substation. The grid connection will consist of the construction and operation of an underground electrical cable up to 110kV.
- 7.2.4. In terms of national and regional policy, the Board will note that there is a large number of policy documents which support and promote the delivery of renewable energy schemes to achieve the transition to a low carbon energy future. It has been the national commitment to ensure that at least 16% of all energy consumed by this year, 2020 would be from renewable sources, including wind energy. The National Planning Framework sets out a vision for Ireland to 2040, expressed through ten National Strategic Outcomes (NSO). One of the key goals of the NPF (National Strategic Outcome 8) is that of Transition to a Low Carbon and Climate Resilient Society. It acknowledged that Ireland's energy policy is focussed on the pillars of sustainability, security of supply and competitiveness.
- 7.2.5. National Policy Objective 55 seeks to "Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet

national objectives towards achieving a low carbon economy by 2050.” In the White Paper - Ireland’s Transition to a Low Carbon Energy Future, 2015-2030, the significant role and contribution of onshore wind in this transition is recognised and it is detailed that to achieve the 2020 40% target, the average rate of build of onshore wind generation will need to increase to up to 260MW per year.

- 7.2.6. In terms of local policy, the Board will note that the subject site is located within the area known as the “Galway Wind Park”. Under the Galway Wind Energy Strategy (WES) which forms part of the current Galway County Development Plan 2015-2021, this area is designated as the most suitable part of the County to accommodate wind energy and it is detailed that it is envisaged that it will contribute towards the national 40% target for renewable energy production.
- 7.2.7. An assessment of the planning history of the wider area shows that a number of wind energy projects have already been permitted. The current proposal seeks to alter 9 previously permitted turbines, the planning permission for 7 of which is still valid. Given the planning history, the local road network has undergone upgrade works and electricity transmission infrastructure, including substations have been permitted, and constructed to facilitate these permitted windfarms. The proposed development, is therefore, considered to be acceptable in principle and would support the existing pattern of development in the area.
- 7.2.8. The WES identifies ‘SA Strategic Areas’, ‘AP Acceptable in Principle Areas and OC Open to Consideration Areas on Map WE-5A. These designations have been adopted based on an analysis of the available wind energy resource, the electricity transmission network, transport and utility infrastructure, natural heritage designations, ground conditions, built heritage, landscape character and sensitivity, proximity to residential properties and recreation/tourism/ amenity issues.
- 7.2.9. Section 7.4.2 of the Galway County Development Plan 2015-2021 states that is the policy of the Council to maximise wind energy development in areas designated as ‘SA’, AP and OC in the WES. The Galway County Council planning report acknowledges that the subject site is located within an area identified as being most suitable for wind farm developments and much of the site is designated as a Strategic Area, with all turbines to be located in this area. Part of an existing access road which is contained with the proposed development site is located within an area

designated 'Open for Consideration'. Given the context of the site within the Galway Wind Park, I consider the development to be generally in accordance with the plan.

- 7.2.10. I note the third-party submissions in the context of the number of wind farms in the general vicinity. In this regard, I would note that the current proposed development seeks to change the dimensions of previously permitted turbines, rather than introduce any additional turbines over what has previously been consented. Given the location of the site within an area specifically designated for wind energy development and considered a strategically appropriate location for such development, together with the planning history of the area, I am satisfied that the principle of the development at this location is acceptable. I am further satisfied that the wind energy development is supported by national, regional and local policies and objectives as they relate to the move to a low carbon economy.

7.3. Roads & Traffic:

- 7.3.1. The subject site is located in an upland and sparsely populated rural area of Co. Galway, which has been identified as a strategic area for wind energy projects. Planning permission has been granted for a number of wind farms and much of the necessary infrastructure to accommodate the construction traffic, including the junction of the N59 and the L-54534 at Doon East is already in place. Improvements to the existing local road network has been carried out under the previous permissions and planning permission remains valid for 7 of the 9 amended turbines sought here.
- 7.3.2. The EIAR has concluded that the existing local road network has sufficient capacity to accommodate the construction traffic which will result in a total of 200 traffic movements per day. The grid connection will result in 22 one-way HGV movements, averaging 2 HGV movements per day. Much of the rock required for the construction of the turbines will be sourced on site in existing and new borrow pits. Once operational, maintenance traffic is expected to be low.
- 7.3.3. The EIAR submitted in support of the proposed development indicates that while there will be increased construction traffic volumes, this is a temporary impact which will be managed by a Traffic Management Plan which will incorporate all of the mitigation measures set out as part of the CEMP. There is no change to the

previously permitted haul route, deemed acceptable by the Board and Galway County Council. I also acknowledge that permission has been granted by the Board for the Ardderroo Wind Farm, ABP-303086-18 refers, which will accommodate 25 turbines on lands to the south of the currently proposed site. These permitted turbines will also use a similar haul route and is subject to Condition 16, which requires that the Transport Management Plan be submitted for agreement with Galway County Council prior to the commencement of development. Condition 17 of that permission includes other roads related details which require agreement.

7.3.4. I would acknowledge the concerns raised by the local residents in terms of nuisance due to dust and noise during the transportation of the turbine components in the past. I also note their concerns in terms of the dust monitoring, which was undertaken by the developers, but no results were shared. Should the Board be minded to grant permission in this instance, I recommend that the aforementioned conditions 16 and 17 be included to ensure clarity for residents.

7.3.5. In addition to the above, I note that the applicant has indicated that they have been actively working to develop solutions to address the issues raised by the local community. Planning permission was sought by the developer, PA ref 15/813 refers, to develop the Doon Residential Area Bypass including a 975m long construction access road, parking area and a temporary junction with the N59 and associated civil works and cable laying. A Natura Impact Statement accompanied the application. The purpose of this road was to bypass the residential section – Doon Village – for construction traffic associated with the approved wind farm developments in the Galway Wind Park.

7.3.6. Concerns were raised in the planning assessment of that proposal as the development was discussed as a ‘temporary road’ rather than a permanent road as presented in planning application. Following a request for further information, Galway County Council refused permission for the road for the following stated reason:

The proposed project, involving the construction of the Doon Residential Area Bypass Road for the Galway Wind Park Development and the creation of a new entrance and associated works onto the N59, National Secondary Road, at Cnocan Raithni, Mhaigh Cuillin, is at variance with official policy in relation to control of development on/affecting national roads as outlined in the

DoECLG Spatial Planning and National Roads Guidelines for Planning Authorities (2012), and also at variance with the standards set out in the Authorities Design Manual for Roads and Bridges, notwithstanding the Road Safety Audit (Stage 1) submitted with the planning application. Accordingly to grant the proposed development would be at variance with national policy in relation to control of frontage development on national roads, would endanger public safety by reason of traffic hazard and obstruction of road users, would have a detrimental impact on the capacity, safety or operational efficiency of the national road network in the vicinity of the site, and therefore, would be contrary to the proper planning and sustainable development of the area.

- 7.3.7. It is indicated that the applicant has sought to address the concerns of TII which resulted in the above refusal. However, from a civil infrastructure perspective, the Doon Road has previously been upgraded and is considered capable of accommodating the construction traffic without any further requirement for improvement works.
- 7.3.8. I note that the Roads and Transportation department of Galway County Council has not objected to the proposed development. It is acknowledged that the construction phase of the development will have a significant, but temporary, impact on local residents living on and using the L-53453. I am generally satisfied that the proposed amendments to the turbines, taken in combination with other developments in the surrounding area would not give rise to a significant traffic hazard, or endanger the safety of other road users, subject to the full implementation of the EIAR mitigation measures and compliance with the Traffic Management Plan prepared as part of the Construction and Environmental Management Plan for the site.

7.4. Residential & general amenity issues

- 7.4.1. The proposed development seeks to amend the height of 9 previously permitted turbines from a 90m hub height and rotor diameter of 101m and a maximum tip height of 140.5m, to an increased rotor diameter of 138m and a maximum tip height of 156m, an increase of 15.5m to the tip. The locations of the turbines have not been significantly altered, with 3 proposed to be relocated between 6 and 16m from the previously permitted locations. The amendments will not result in the turbines being

located closer to any residential property, although I would accept that the catchment area will increase due to the increased rotor diameter.

- 7.4.2. There are a number of residential properties located along the haul route for the delivery of the turbine components, notably the 20+ houses at Doon East, from the N59 along the L-53453. I have discussed the issue of the impact of construction traffic above and would acknowledge that the construction phase of the development has potential to impact on existing road users as well as the residential amenities of existing residents in the area.
- 7.4.3. The third-party observations submitted against the proposed development, cite the impact on residential amenity as a significant concern. Impacts on residential amenity including noise, dust, visual impacts, impacts of stress as well as impacts on the local road network. I have addressed road matters above.
- 7.4.4. The submitted EIAR, at Chapter 8, considered the impacts of the development in terms of **noise and vibration**. In assessing the impact of noise, all sensitive properties were afforded a Category A status in terms of threshold values. 9 receptors were considered in terms of cumulative impact. The EIAR concludes that the predicted noise level at the nearest noise sensitive receptor during the construction phase of the development will be below the 65dB threshold. The cumulative impact of roads construction and borrow pit excavation is predicted to be 53dB.
- 7.4.5. The EIAR sets out that the proposed limits for the development which apply cumulatively is 40dB LA90, 10min for the GWP Phase 3 turbines. This is the lowest possible noise limit and is considered to protect the amenity of nearby receptors. Noise predictions were undertaken using noise prediction software to quantify the impact of the proposed development as a standalone development and cumulatively. The operational phase, and when considered cumulatively with other wind farm projects in the area, will not exceed the day or night-time noise limits.
- 7.4.6. I am satisfied that the EIAR has adequately addressed the issue of noise impact and that the proposed amendments to the previously permitted turbines will not give rise to any significant noise disturbance at noise sensitive receptors during the operational phase of the development.

- 7.4.7. In terms of **shadow flicker**, Chapter 11 of the EIAR calculated the shadow flicker potential using the modelling software *WindFarm*, which assumes the worst-case scenario. The results of the modelling suggest that at the closest house H1 (an unoccupied house), in the worst-case scenario, may experience shadow flicker for a maximum of 0.16 hours on 28 days of the year, with a total number of 3.1 hours per year. The realistic scenario suggests that the total hours per year will be 0.89 hours per year.
- 7.4.8. In terms of cumulative impacts, the model shows that in combination with the existing turbines operating in the Galway Wind Park, shadow flicker thresholds will be exceeded at houses H1 and H2, and notably in the north and east windows. The theoretical worst-case scenario predicts approximately 44.5 hours flicker for House 1 per year over 78 days. For house H2 the total hours of shadow flicker per year is approximately 32.6 hours over 75 days per year. The maximum hours of theoretical shadow flicker ranges between 0.49 – 0.75 hours per day. These figures suggest that house H1 exceeds the 30 minute per day threshold value. The realistic scenario estimate that the total hours of potential shadow flicker at H1 is 12.9 hours and at H2 9.5 hours.
- 7.4.9. Mitigation measures are proposed in section 11.4 of the EIAR and subject to the implementation of appropriate mitigation strategies, I am satisfied that the proposed amended turbines will not give rise to any significant additional shadow flicker effects at the identified sensitive receptors. A condition to this effect should be included in any grant of planning permission.
- 7.4.10. In terms of **visual amenity**, Chapter 9 of the EIAR notes the location of the subject site within an area of Co. Galway which has been identified as a strategic location of wind energy projects. The EIAR includes an assessment of the likely significant impacts and the Zones of Theoretical Visibility were prepared over a distance of 25km. Table 9.10 of the EIAR sets out a summary of change in effects on selected viewpoints and in the context of the wider Galway Wind Park.
- 7.4.11. The wider GWP includes a number of operational turbines which have maximum tip heights of 140.5m. under ABP-303086-18, the Board granted planning permission for the construction of the Ardderroo Wind Farm and for turbines with a maximum tip height of 178.5m. Having regard to the topography of the site, the EIAR notes that

the proposed turbines will not appear taller than the existing operational ones, as their bases are to be set at lower levels, and down slope in places.

- 7.4.12. In the context of the wider wind energy developments present in this landscape, I am satisfied that the significance of the visual impacts associated with the proposed amended turbines is negligible with regard to adjoining settlements, landscapes and views, heritage features and amenities as well as residential amenity.
- 7.4.13. In terms of **other residential and general amenity**, the Board will note the third-party submissions. It is clear that the construction phase of previously permitted wind energy projects in the area has resulted in a number of impacts on the local residents. In particular, I note the concerns in relation to the construction traffic, including times of delivery of turbine components, as well as the noise and dust associated with such traffic, particularly during dry weather. The EIAR clearly details the level of construction traffic that will be generated as a result of the proposed development, and I note that planning permission remains valid for the construction of 7 of the currently proposed amended turbines. Permission for the other 2 turbines expired while the application has been on appeal.
- 7.4.14. Prior to the commencement of development on the site, the developer will be required to agree a Traffic Management Plan for the construction phase of the development. All mitigation measures to deal with potential fugitive dust arising from construction traffic should form part of this Plan and will be included in the CEMP for the site. The timing for the delivery of the turbine components will also be addressed as part of the plan which should be clearly communicated to the local residents in advance of delivery. Subject to the implementation of the stated mitigation measures, I am satisfied that the impacts in this regard will be temporary and therefore acceptable.
- 7.4.15. The Board will note that residents are not satisfied with the level of communication they have received in relation to the ongoing works at Galway Wind Park. In response, the applicant has countered this claim noting that there is a dedicated Community Liaison Officer employed locally who is active in the community. Engagement regarding the proposed amendments to the turbines began in February 2018 and if permitted, the Construction Phase team will further liaise with residents on a number of key elements.

- 7.4.16. In addition, it is submitted that the development has complied with all statutory and regulatory obligations, as well as complying with the Code of Practice for Wind Energy Development Guidelines. In terms of Community Benefit, it is noted that the applicants have contributed €8.3M in funding since 2008 and assisted more than 2743 local projects. The Community Fund has been structured around supporting groups rather than individuals and is a voluntary fund. Issues raised by third parties in relation to asserted private deals with other developers and a select few members of the community are not considered relevant.
- 7.4.17. Overall, I accept that there will be some impacts arising in relation to residential and general amenity during the construction phase due to increased traffic, noise and dust. However, given that this will be temporary and for a short period of time, I am satisfied that the proposed development would not give rise to any significant additional adverse impacts on residential amenity by way of noise, shadow flicker or visual intrusion, subject to the full implementation of the mitigation measures set out in the EIAR.

7.5. Biodiversity

- 7.5.1. The Board will note the submission of a NIS in support of the proposed development. In addition, Chapter 4 of the EIAR deals with biodiversity. The site does not lie within any designated site but is adjacent to 2 Natura 2000 sites – The Connemara Bog Complex SAC (Site Code 002034) and SPA (Site Code 004181). The EIAR highlights all of the designated sites including SACs, SPAs, NHAs and pNHAs within 10km of the site. Table 4-3 of the EIAR includes details of the qualifying features of conservation interest and the distance from the proposed development site for the designated sites.
- 7.5.2. The primary use of the lands the subject of the proposed development comprise commercial conifer forestry and artificial surfaces associated with the roads and infrastructure already constructed, and permitted, which serve the existing Galway Wind Park. In terms of flora identified within the site during the ecological walkover surveys, no protected species were identified. Within the current proposed site, no invasive species were found but Japanese knotweed and Rhododendron were identified during previous pre-construction surveys at Cloosh and Rhododendron

was recorded at Seecon. A programme of eradication and monitoring was undertaken for both wind farms.

- 7.5.3. With regard to fauna using the study area, and notwithstanding the presence of suitable habitat, the ecological surveys found no evidence of otter, badger or red squirrel, while there were sightings of a pine martin. Common frog, common lizard and smooth newt were recorded during pre-construction surveys in the wider Galway Wind Park, including the subject site. While not recorded during the 2018 surveys, suitable habitat exists to support reptiles and amphibians, who are considered to breed within the development area.
- 7.5.4. In terms of the aquatic environment, the site is located within the Corrib and Owenboliska River catchments, with the Drimneen and Owenboliska Rivers intersecting the site. A biological assessment of water quality of watercourses affected by the proposed development were rated Q4-5 and all sites have been afforded unpolluted status with a high or good Water Framework Directive Status. Fish, including salmon, sea trout, brown trout and Sea Lamprey have been recorded in water courses draining and intersecting the site and there are records for freshwater pearl mussel in the 10km grid square M12. A freshwater pearl mussel catchment occurs within the Owenriff Catchment situated upstream of Lough Corrib. A tenuous link therefore occurs between the development site and this catchment as T9 drains to a river entering the SAC approximately 6km to the east.
- 7.5.5. Changes to water quality due to sedimentation of accidental spillages of pollutants during the construction phase and early operational phase have the potential to impact on water habitats and the species the watercourses support. Fish species recorded within the water courses draining and intersecting the development area include Atlantic Salmon, Sea trout, Brown trout and sea lamprey. The Owenboliska River supports populations of Atlantic Salmon and Sea Trout as well as Brown Trout. Atlantic Salmon is listed in Annex II of the EU Habitats Directive and is a Qualifying Interest of the Connemara Bog Complex SAC.
- 7.5.6. Bat surveys results show that at least 6 species of bat use the site, but not the Lesser Horseshoe Bat, who was not recorded at any of the four survey locations. In terms of the construction phase, the most likely impacts on bats is loss of habitat. However, the conifer plantation is not considered suitable for roosting bats and the

development will not give rise to the loss of any foraging habitat. During the operational phase, there is potential for bat mortality due to collision with the turbines or the turbine blades. Mitigation measures are included to minimise such impacts and are discussed further below in the EIA section of this report.

7.5.7. In terms of impacts on birds, the EIAR lists a total of 35 bird species recorded within the survey area, including 10 species which are of conservation concern. The EIAR acknowledges that work taking place during the summer months could cause disturbance to breeding birds and could lead to a temporary displacement of some birds during the site construction. It is also acknowledged that birds of conservation interest for SPAs in the vicinity of the site may fly over the site while commuting between foraging and breeding habitats. The EIAR identifies that the birds most at risk of collision are Merlin, White-tailed eagle and Hen Harrier due to soaring while moving between foraging and breeding habitats. However, the potential for significant collision risk is considered to be very low. Recent surveys have shown no evidence of breeding birds within the development area and the Board will note that the wider Galway Wind Park is subject to ongoing monitoring in this regard.

7.5.8. In terms of third-party submissions, the Board will note the concerns raised in relation to the presence of hen harrier within the development site. I note the results of the winter monitoring survey 2017/2018 which noted 4 observations over the survey months at Cloosh Wind Farm. All sightings were of individual birds outside the development boundary and were observed from each of the Cloosh VPs, VP1, VP2 and VP3 located to the south of the development area, in all months excluding January. A single observation was made from VP5, Uggool Wind Farm VP in March of 2018. I will discuss this matter further in the Appropriate Assessment section of this report but generally, I am satisfied that the submitted information adequately addresses the potential impacts to hen harriers, and other bird species. Overall, I am satisfied that no significant additional ornithological impacts arise from the development.

7.5.9. Mitigation measures will include the appointing of an Environmental Manager / Ecological Clerk of Works during the construction phase of the development. This project ecologist will be awarded a level of authority to stop construction activities if there is a potential for adverse environmental effects other than those predicted and

mitigated in the EIAR. A Construction and Environmental Management Plan will be implemented and will take cognisance of Construction Industry Research and Information Association CIRIA, technical guidance on water pollution control.

- 7.5.10. Although the construction works could give rise to habitat loss, species disturbance and displacement, it is likely that species displaced during this phase would return to the site when the works are completed, subject to the implementation of mitigation measures. I am satisfied that the proposed amendments would not give rise to any additional significant adverse impacts on biodiversity, including birds and bats.

7.6. Other Issues

Replacement lands:

- 7.6.1. The development notes that in order to facilitate the proposed turbines, a total area of tree felling is approximately 26.2ha. The EIAR notes that the replanting of felled trees will occur at the site location as well as at a site at Cloonfower, Co. Roscommon. The replanting will include broadleaf (Willow or *Salix spp.*) within the Galway Wind Park within the three new borrow pits, the additional new cell on the existing borrow pit near T38 and along the felled areas along the new road corridors. The Co. Roscommon site has a stated area of 6.7ha and is currently under grass, being improved grassland. It is proposed that this site will become a conifer plantation.
- 7.6.2. The loss of improved agricultural grassland, as well as the removal of hedgerows and treelines to facilitate this plantation is considered to be a long term slight negative impact. The loss of hedgerows also has the potential to cause disturbance impacts to mammals and birds, particularly if clearance occurs during the breeding season. There is an abundance of similar well-connected habitat in the area of the proposed replacement planting site and therefore disturbance to species is considered to be temporary slight negative impact. The replanting is anticipated as having a long-term slight positive impacts for some species through the creation of interim habitats for Hen harrier and other breeding birds, as well as Red squirrel and pine martin as the plantation matures.
- 7.6.3. The Cloonfower site is drained by a number of drainage ditches which drain to the Cloonfower stream approximately 150m to the south east of the site. This stream

ultimately drains to the River Shannon at Shannonbridge approximately 7km downstream. The planting works has the potential to cause sedimentation run-off into the stream while fertilisation can also threaten water quality. Impacts on water quality could adversely impact aquatic biota such as macro-invertebrates and fish. Subject to best practice measures being applied, the potential impacts to water quality are considered temporary slight to moderate negative impacts. I am satisfied that this is acceptable.

Grid Route Connections & Substation:

- 7.6.4. The Board will note that the final grid connection point has not been selected and that the applicant has considered 2 options as part of the EIAR. Ultimately, the development proposes to connect to the Knockranny Substation at Letter and a number of cable trenches, approximately 4km, for the proposed turbines are already in place. An additional 12km of cable trenches are required to accommodate Phase 3 turbines.
- 7.6.5. Two alternative grid connections are submitted and considered. Both options will see all internal cables converge onto a new Ring Main Unit at T36 and will connect to the National Electricity Grid at Knockranny Substation, via a loop-in connection through either a new substation to be located to the west of Knockranny Substation or the recently permitted Ardderroo substation, ABP-303086-18 refers.
- Route Option A will consist of a loop-in connection to the permitted Ardderroo substation. The route will exit the Ardderroo substation and continue underground to the operational Knockranny Substation. The cable will be installed beside or within existing wind farm and forestry roads.
 - Route Option B will involve the construction of a new substation which will replace the permitted Cloosh Substation. The route will include a route through transitional woodland and open non-vegetated areas.
- 7.6.6. The Board will note that the applicant suggests that Route Option A is the preferred option but is dependent on Eirgrids decision on the matter. If Route Option B is selected, a further planning application will be submitted for the 110kV substation. Both options have been considered in terms of EIA and AA. The Board will note that the grid connection is not part of this planning application.

Archaeology & Heritage:

7.6.7. Chapter 10 of the EIAR deals with cultural heritage. It is noted that there are no recorded monuments identified within the limits of the study area. With regard to the proposed replanting lands in Cloonfower, there is of remains of fulachta fiadha or burnt spreads. In the wider cultural heritage context of the site, the desk-based research noted 3 lime kilns, a number of 19th century farm structures / buildings / cottage, trackway and a well within the limits of the replanting lands. The field survey found that apart from a few amorphous scatters of stone, none of the 19th century cultural heritage features survive above ground. A condition requiring archaeological monitoring during the preparation of the site for planting should be included in any decision to grant permission.

Peat Stability:

7.6.8. Chapter 5 of the EIAR deals with land and soils and includes a section on peat instability and failure. Having regard to the level of permitted works already carried out at the site, in the development of the wider Galway Wind Park, together with the mitigation measures included to reduce the likelihood of a slide occurring, the potential risk of peat failure has been reduced by design and will be avoided and managed.

Water Quality:

7.6.9. Chapter 6 of the EIAR addresses the issue of water and sets out the potential impacts on the hydrological regime. Having regard to the nature of the proposed development, it is not anticipated that the amendments to the proposed turbines will give rise to any additional significant adverse impacts on ground or surface water quality, subject to the implementation of the mitigation measures presented in the EIAR. The existing works within the wider site are noted and the area is drained through the existing forestry drainage systems as well as those within the Galway Wind Park.

Other Environmental Issues:

7.6.10. No additional significant adverse impacts are anticipated in terms of the following environmental aspects:

- population and human health

- Air & Climate
- Material Assets

Development Contributions:

7.6.11. The development is a class of development which is identified in the Development Contribution Scheme, 2016 of Galway County Council. Part 2 of the Development Contribution Scheme relates to Industrial Commercial and other development and provides as follows:

‘A charge of €10,000 per megawatt capacity shall apply.

A charge of €4,000 per megawatt capacity shall apply to community based/local wind farms’

As the proposed development relates to a commercial windfarm the higher charger is applicable.

7.6.12. Part 5 of the Scheme deals with Review and Indexation which advises that the rates will be adjusted with effect from the 1st April each year based on changes to the Wholesale Price Index for Building and Construction published by the Central Statistics Office.

7.6.13. In this regard, should the Board be minded to grant planning permission, a condition requiring the payment of a development contribution under the development contribution scheme, should be included.

Other third-party observations:

7.6.14. The Board will note that an observer requested that the Board assess the application including ‘any unauthorised development’ at the site. I attended at the site over three day and walked extensively. There did not appear to be any unauthorised development on the site and there is nothing before the Board to suggest that there is any unauthorised development on the site. Furthermore, the observer has not provided any further clarity or expanded on the observation referring to unauthorised development.

7.6.15. The permitted windfarms have been constructed save for the 9 turbines the subject of this current application and appeal.

7.6.16. With regard to the reference to the CJEU Case C-254/19, I would note that Section 40 of the Planning and Development Act, 2000, as amended deals with Limit of Duration of Permission and states as follows:

40.—(1) Subject to subsection (2), a permission granted under this Part, shall on the expiration of the appropriate period (but without prejudice to the validity of anything done pursuant thereto prior to the expiration of that period) cease to have effect as regards—

(a) in case the development to which the permission relates is not commenced during that period, the entire development, and

(b) in case the development is commenced during that period, so much of the development as is not completed within that period.

7.6.17. This section of the Act therefore provides that if an element of a permitted development is not completed, this does not mean that the rest of the development is unauthorised. I would also note that planning permission for the 9 turbines remained valid when the planning application for the current proposal was lodged with Galway County Council with the appropriate periods with ABP ref PL07.239118 (PA ref: 11/429), Seecon Windfarm expiring on the 31st October 2021. PA ref 10/303, Cloosh Windfarm expired on the 6th June 2020.

7.6.18. The current proposed development has been considered as a stand-alone planning application and therefore does not seek to extend the duration of a development consent which requires Appropriate Assessment under Article 6(3) of Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora. The Board will note that the original planning permissions relating to the site were the subject of full AA and EIA and the current application is accompanied by a Natura Impact Statement and an Environmental Impact Assessment Report.

7.7. Conclusion

Overall, I consider that the proposed development is acceptable and will be an acceptable form of development in the context of proper planning and sustainable development.

8.0 Environmental Impact Assessment

8.1. Introduction

8.1.1. This application was submitted after the 1st September 2018, the date that Directive 2014/52/EU amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment was transposed into Irish legislation as part of the provisions of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018). These Regulations transpose the requirements of the EIA Directive into planning law, providing a clear definition of EIA, further clarity regarding the process and the need to identify, describe and assess the direct and indirect significant effects of the project on specified environmental factors. The Minister for Housing, Planning and Local Government has published updated 'Guidelines for Planning Authorities and An Bord Pleanála on carrying out environmental impact assessments (EIA)', replacing the 2013 Guidelines.

8.1.2. The new legislation did not make any changes to Annex I or II of Directive 2011/92/EU, which identifies projects for the purposes of EIA. Therefore, Schedule 5 of the Planning and Development Regulations 2001-2019, for the purposes of EIA, still applies. The proposed development falls within the category of prescribed development for the purposes of Part 10 under Schedule 5. Part 2(3) of Schedule 5 of the Planning and Development Regulations 2001 relates to 'Energy Industry' and part (j) states as follows:

- (j) Installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output greater than 5 megawatts.

As the proposed development relates to 9 turbines with a total output greater than 5 megawatts, the development, therefore, comprises a development which requires the submission of a mandatory EIAR as it exceeds the threshold set out under Part 2(3)(j) of Part 2 of Schedule 5 of the Planning and Development Regulations 2001-2019.

8.1.3. I am satisfied that the EIAR has been prepared by competent experts to ensure its quality and completeness. The qualifications, memberships and competencies of the EIAR contributing authors is set out in Table 1-3 of Volume 2 – Main Report of the EIAR. I am further satisfied that the information contained in the EIAR and supplementary information provided by the developer, adequately identifies and describes the direct and indirect effects of the proposed development on the environment, is up to date and complies with article 94 of the Planning and Development Regulations 2001-2019.

8.2. Environmental Impact Assessment Report:

8.2.1. The EIAR submitted with the planning application is presented in three volumes including a non-technical summary (Volume 1), main report (Volume 2) and appendices (Volume 3). Volume 2, Section 3 of the EIAR provides 13 chapters and seeks to address all environmental matters associated with the proposed development in a grouped format. The EIAR is advertised in the public notices and I have read this EIAR in its entirety.

8.2.2. The EIAR seeks to:

- Describe the proposal, including the site, and its surroundings, as well as the development's design and size:
- Describe the likely significant effects of the project on the environment:
- Describe the features of the project and measures envisaged to avoid, reduce and, if possible, remedy significant adverse effects:
- Describe the main alternatives studied and the main reasons for the choice of site and development, taking into account the effects on the environment:
- A non-technical summary is also provided:
- The EIAR also includes, at Section 1.9, details of the EIAR Project Team Contributors involved in the preparation of the document.

8.2.3. **Volume I** of the EIAR includes a Non-Technical Summary in a separate volume (Vol. I). The NTS provides an introduction and seeks to describe the proposed development, as well as provide a summary of the findings about each of the

environmental topics that are examined in the EIAR. The information presented is in clear and non-technical language. I am satisfied that the NTS is acceptable.

8.2.4. **Volume II** of the EIAR is presented under the following chapter headings:

- | | |
|--|-----------------------------------|
| 1. Introduction | 7. Air & Climate |
| 2. Description of proposed Development | 8. Noise & Vibration |
| 3. Population & Human Health | 9. Landscape |
| 4. Biodiversity | 10. Cultural Heritage |
| 5. Land & Soils | 11. Shadow Flicker |
| 6. Water | 12. Material Assets |
| | 13. Interactions of the Foregoing |

8.2.5. Chapter 1 of Volume II deals provides an introduction to the proposed development, provides information in relation to consultations and the EIAR Study Team as well as the legislative and EIA process. No difficulties in obtaining baseline and other data during the course of the EIA process were noted. If permitted, the development is anticipated to meet the electricity needs of approximately 29,337 homes and will further offset approximately 48,040t of CO₂ emissions per annum. Details of consultations engaged in by the applicant in preparation of the EIAR are also set out in the document and are considered acceptable. I am further satisfied that the application has been made accessible to the public through electronic means, as well as hard copies being available.

8.2.6. Chapter 2 provides a description of the proposed development and deals with alternatives considered in terms of turbine sites and cable route, wind farm design and cabling methods and sources of energy. The EIAR, section 2.3 sets out the key environmental and practical considerations which influenced the design of the proposed development and alternative layouts on the subject lands. The EIAR notes that in a do-nothing scenario, the permitted turbines will be constructed with reduction of energy production from the Galway Wind Park of approximately 10.8MW.

8.2.7. Chapter 2 also includes a full and detailed description of the proposed development, including all elements of the turbines and proposed Grid Connection cable route

options. The duration of the construction period is estimated to be between 12 months, with up to a further 6 months for commissioning. The development will be subject to the implementation of a Construction and Environmental Management Plan which will collate and manage the proposed and agreed mitigation measures, monitoring and follow-up arrangements and management of environmental impacts.

- 8.2.8. The EIAR takes into account the cumulative impacts on the environment likely to arise in terms of the proposed windfarm development in combination with other projects and activities in the area. This issue is addressed in Section 2.9 of the EIAR and includes other wind farms and other permitted developments as well as relevant plans which would potentially interact with the project.
- 8.2.9. Chapters 3 to 12 of the EIAR seek to identify, describe and assess the main likely significant direct and indirect effects arising from the proposed development, and the interaction of the environmental aspects in accordance with the requirements of Schedule 6 of the Planning & Development Regulations, 2001 as amended. The EIAR also describes the forecasting methods and evidence used to identify and assess the significant effects on the environment and provides a description of measures to be employed to prevent, reduce and where possible, offset likely significant adverse effects on the environment. Chapter 13 considers the interactions by means of cross referencing each environmental aspect against all other aspects considered.
- 8.2.10. The requirements of Article 3(2) of the Directive require a consideration of the vulnerability of the project to risks of major accidents and/or disaster that are relevant to the project concerned. The EIAR addresses this issue in section 2.6.9. It notes that given the temporary nature of the construction stage, and the scale of the proposed project, as well as the environmental controls to be implemented from the outset, the risk of disasters, for example associated with severe weather events or natural catastrophes, or accidents for example in terms of fuel spills, traffic accidents, is considered low.
- 8.2.11. The wind farm site is not regulated or connected to or lies in proximity to any SEVESO site which is regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations. Therefore, there is no potential effects in this context. It is considered that having regard to the nature and scale of the

development itself, it is unlikely that any major accident will arise. There are unlikely to be any effects deriving from major accidents and or disasters and I am satisfied that this issue has been addressed in the EIAR.

8.2.12. I am satisfied that the information provided is reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effect of the project on the environment, taking into account current knowledge and methods of assessment.

8.3. Alternatives

8.3.1. In terms of the requirements to consider alternatives, the following is relevant:

- Article 5 (1) (d) of the 2014 EIA Directive requires:

“(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;”

- Annex (iv) (Information for the EIAR) provides more detail on ‘reasonable alternatives’:

“2. A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for electing the chosen option, including a comparison of the environmental effects.”

8.3.2. Chapter 2 of the EIAR seeks to address the matter of alternatives considered. Given the context of the subject site, the consideration of alternatives, relate to turbine sites and cable routes as well as grid connection options. In terms of reasonable alternative sites for the proposed turbines, key criteria were used when developing the Cloosh and Seecon wind farms including as follows:

- Wind speed:
- Supply / demand disparity
- Proximity to national grid
- Planning designations

- Environmental designations
- Accessibility
- Distance from houses
- Visual impact
- Other issues such as:
 - Telecommunications
 - Archaeology
 - Geotechnical and hydrological constraints.

8.3.3. In considering alternative designs and layouts to optimise the wind farm projects, a comparison of the environmental effects facilitated the selection of the proposed layout. The use of the existing road infrastructure reduces the need for new construction. The proposed new roads to be constructed include short spur roads to access turbines T9, T19, T20, T27, T30 and T31 and 93m of road to access the permitted peat storage area east of T13 as well as turning areas, both 50m for T19 and T31.

8.3.4. A number of the cable trenches, 4km, for the proposed turbines are already constructed but 12km of additional cable trenches will be required. All Phase 3 turbine electrical cables will converge onto the proposed new Ring Main Unit at T36 and a new cable trench will be required beside the internal wind farm road between T36 and the selected substation. The internal cable route will require 13 watercourse crosses. A consideration of alternative turbines is also considered as part of the EIAR.

8.3.5. Two alternatives for grid connections have been presented in the EIAR. Both options will see all internal cables converge onto a new Ring Main Unit at T36 and will connect to the National Electricity Grid at Knockranny Substation, via a loop-in connection through either a new substation to be located to the west of Knockranny Substation or the recently permitted Ardderroo substation.

- Route Option A will consist of a loop-in connection to the permitted Ardderroo substation (ABP ref: ABP-303086-18). The route will exit the Ardderroo

substation and continue underground to the operational Knockranny Substation. The cable will be installed beside or within existing wind farm and forestry roads.

- Route Option B will involve the construction of a new substation which will replace the permitted Cloosh Substation. The route will include a route through transitional woodland and open non-vegetated areas.

If Route Option B is selected, a further planning application will be submitted for the 110kV substation.

8.3.6. I am satisfied that the issue of alternatives has been addressed in the submitted EIAR.

8.4. Environmental Impact Assessment

8.4.1. This assessment has had regard to the application documentation, including the Environmental Impact Assessment Report, and all other supporting reports submitted, as well as all written submissions. In accordance with the requirements of Article 3 of the EIA Directive and Section 171A of the Planning and Development Act, 2000 (as amended), the environmental assessment is carried out against the following factors:

- (a) population and human health,
- (b) biodiversity, with particular attention to protected species and habitats protected under the Habitats Directive and the Birds Directive,
- (c) land, soil, water, air and climate,
- (d) material assets, cultural heritage and the landscape,
- (e) the interaction between the above factors.

8.5. Population and Human Health

8.5.1. The Board will note the concerns of the third parties with regard to the impact of the proposed development, and the negative associated impacts, on human health in terms of environmental impacts, quality of life, increased stress, noise and air quality impacts due to traffic. The EIAR, Chapter 3, seeks to address impacts associated with the development on population & human health and considers impacts on factors such as settlement and social patterns, economic activity and employment,

land use, roads and access, tourism and amenities, human health and project health and safety.

Population

- 8.5.2. I note that impacts on population and human health as a result of the proposed development have also been considered in other chapters of the EIAR including in relation to water, air, noise and traffic. The EIAR notes that the site is located within the existing Galway Wind Park and comprises Phase 3 of the project. The site is located in a rural upland area of Connemara which is sparsely populated, and the nearest house is located 1.2km from a proposed turbine. The nearest settlements to the site are identified as Moycullen, 10km to the east and Oughterard 5.8km to the north of the nearest turbine T9. In addition, Doon East, Rosscahill and Gorthagroagh lie between 6.5km and 7.5km to the east of the site.
- 8.5.3. The EIAR does not anticipate an effect on the population of the area due to the proposed development. There will be no mass in-migration associated with the development and it is expected that the development will have a neutral impact on population.

Economic Activity and Employment

- 8.5.4. An assessment of the 2016 census of population statistics for the area, the workforce is employed in a diverse range of industries. Much of the local population of the surrounding settlements are engaged with professional, technical and managerial roles. There are limited employment opportunities within the settlements and residents of the area also travelling to Galway City for work.
- 8.5.5. It is envisaged that the construction phase of the project will take 9 months and may employ approximately 50-100 people. This will have a positive, if minor, impact on employment and will create short-term employment at local, national and international levels, both directly and indirectly. During the construction phase, it is envisaged that resources and labour will be sourced within the region. During the operation phase, permanent jobs will be created locally in the form of operator or maintenance personnel. The development will have a slight positive impact on employment in the area.

Land Use

- 8.5.6. The land to be developed comprise part of the Galway Wind Park, including an amalgamation of four individually consented wind farm projects, with a total of 69 consented turbines. These windfarms are predominantly contained within the Cloosh Valley Forest, one of the largest commercial forests in Ireland owned by Coillte. The proposed development will utilise the existing roads infrastructure already constructed. The site lies in proximity to a number of Natura 2000 sites including the Connemara Bog Complex SAC and SPA.
- 8.5.7. The development will require the felling of conifer trees when mature in the vicinity of the proposed turbines. The majority of the site will remain under conifer plantation. The development will not result in the loss of valuable residential or industrial land. There will be no land severance or loss of right of way and the grid connection will be via an underground cable. The EIAR does not consider that the development will have any significant, negative impact on either the existing or other potential land uses or development in the area.

Tourism and Amenities

- 8.5.8. Moycullen is recognised as a gateway to Connemara in terms of tourism, while Oughterard is the main angling centre in the area due to its location on the Owenriff River on the shore of Lough Corrib. The Western Way runs from Oughterard into the heart of Connemara and there are some walking routes and a mountain bike trail near the site. The Galway Wind Park itself, also has a series of recreational trails, including 6 routes along 48km.
- 8.5.9. While Coillte encourage the use of their sites for amenity purposes, the subject site is not of their advertised forest parks or recreation sites. There are no picnic facilities at the development site and the onsite trails are via forestry tracks. It is noted that there will be disruption to access to the walking routes during the construction phase. Overall, it is considered that the development will not have any significant negative impact on tourism.
- 8.5.10. The development is located in a remote area with the nearest house located 1.2km from the site. In terms of general amenity, the EIAR submits that residential amenity can be affected by nuisance such as dust, noise and traffic. The interaction with

other environmental topics is addressed further under separate chapters in the EIAR and are summarised as follows:

- Air Quality – Chapter 7

There is potential for dust nuisance to occur during the construction phase. Given the separation distance however, any impact is not considered significant. Strict adherence to best practice will minimise dust generation which is concluded to be a temporary minor negative during the construction phase. Once operational, there will be no negative residual impacts regarding air quality.

- Noise – Chapter 8

There are two potential sources of noise from the project – temporary construction noise and operational noise from the turbines. The noise assessment show that guideline noise limits will not be exceeded for construction or during the operational phase of the project at the nearest noise sensitive receptor.

- Visual Impacts – Chapter 9

A number of photomontages were submitted as part of the EIAR, with additional images submitted following the request for Further Information, seeking to depict the proposed development from a number of vantage points. While the site is located within an area of high landscape designation, the development does not significantly affect the aesthetic quality of the landscape due to the context of site in terms of the wider wind farms existing or planned for the area.

- Shadow Flicker – Chapter 11

The EIAR includes a shadow flicker assessment and notes that shadow flicker could theoretically occur at up to 2 properties under worst case scenario conditions when the turbines are considered cumulatively with the Galway Wind Park turbines. If the results take account of average sunshine hours, shadow flicker will not exceed the threshold values of 30 hours per year or 30 minutes per day. It is also noted that both properties are screened from nearby turbines by forestry to the north and east. Mitigation measures in the form of shadow flicker control modules are proposed to be installed on

turbines to control such occurrences. The EIAR concludes that there will be no significant impact to residents from shadow flicker.

- Traffic and Road usage – Chapter 12 (Material Assets)

Traffic studies indicate that while there will be increased construction traffic volumes during stages of the construction phases, this is a temporary impact which will be managed by a Traffic Management Plan. The heavy goods vehicles have the potential to cause nuisance to those using the local roads. Most of the rock required for the construction of the turbines will be sourced on site at existing and new borrow pits. No significant traffic impact is envisaged from the project and turbine components will be delivered via an agreed plan. Any residual nuisance will be temporary and considered slight negative impact.

- Telecommunications – Chapter 12 (Material Assets)

The EIAR notes that the proposed 9 turbines have been subject to EIA previously. Consultation responses were sought at the time of the studies. It was anticipated that there would be no significant impacts on existing services and any potential interference with links could be suitably overcome.

Sustainable Development

8.5.11. It is considered that the development will contribute to Ireland's renewable energy portfolio and to the national transition to sustainable energy solutions. The EIAR submits that the completion of the Galway Wind Park is a positive development in line with sustainable development principles.

Human Health & Project Health & Safety

8.5.12. The EIAR notes that there are no known underlying health risks in the wider area and air quality is characterised as good. Impacts to human health arising from the proposed windfarm relate to sensitivities to significant levels of nuisance such as noise, shadow flicker or air quality. As there will be no significant long-term impacts associated with the proposed development, it is submitted that there will not be significant health impacts associated with the project. A health risk to human well-being due to project environmental impacts is not anticipated.

8.5.13. The appropriate health and safety legislation and tools will apply to the project. The risk of occupational accidents is greatest during the construction phase while under normal conditions, access to the site and turbines during the operational phase is very safe for people and animals. It is not anticipated that the development will present a danger to the public. While health and safety issues are a matter for the HSA, the Board will note that the primary concerns of local residents relate to the impact of the construction phase on the general and residential amenities of the area, as well as human health. I am generally satisfied that the EIAR considers the potential impact of the turbines to human health in the context of the relevant vectors such as noise, air quality and traffic in further chapters of the EIAR.

Mitigation Measures

8.5.14. Mitigation measures are proposed in terms of amenity from traffic, noise and dust and are addressed in the relevant chapters of the EIAR. No mitigation is proposed in relation to land use or tourism and amenity as there is not significant adverse impact arising.

8.5.15. The proposed development comes under the Galway Wind Park Community Fund, which will include a Scholarship Fund and a Major Projects Fund. The local fund is worth 50% of the total Galway Wind Park Community Fund and will be available for projects within 20km of the site.

Residual Impacts

8.5.16. No significant negative residual impacts are envisaged in terms of the human environment, population or human health. I have considered potential impacts on general and residential amenities above in the Planning Assessment section of this report.

8.5.17. Conclusion

8.5.18. I have read and considered all of the submissions made in relation to population and human health. I am satisfied that the impacts identified will be avoided and managed through specific proposals identified in the EIAR. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of population and human health. I am also satisfied that cumulative effects are not likely to arise.

8.6. Biodiversity

8.6.1. Chapter 4 of the EIAR deals with biodiversity and the Board will note that a Natura Impact Statement (NIS) was submitted in support of the proposed development application. The NIS is dealt with in section 9 of this report below but there will also be a degree of overlap. The methodology employed to prepare this chapter of the EIAR is set out and included a desk top study including a review of the existing monitoring programmes in place for the Galway Wind Park, an assessment of databases and a number of field surveys for the following:

- Water quality
- Ecological site walkover including:
 - Habitat survey
 - Mammal survey
 - Bat roost suitability survey
 - Bat active surveys
 - Kerry slug habitat suitability survey
 - Marsh fritillary survey
 - Birds
- Ongoing planning compliance ecological monitoring including:
 - Avian monitoring
 - Water quality monitoring programme
 - Kerry slug monitoring programme

8.6.2. The value of the ecological receptors was determined using the ecological evaluation guidance in the NRA Ecological Assessment Guidelines. The value of habitats is assessed based on its condition, size, rarity, conservation and legal status. The value of fauna is assessed on its biodiversity value, legal status and conservation status. The significance of impacts is also assessed using the stated guideline criteria.

Existing Environment

- 8.6.3. The existing environment is set out in the EIAR and while there is no designated site within the proposed development site, it lies immediately adjacent to 2 Natura 2000 sites – The Connemara Bog Complex SAC (Site Code 002034) and SPA (Site Code 004181). The EIAR highlights all of the designated sites including SACs, SPAs, NHAs and pNHAs within 10km of the site. Table 4-3 of the EIAR includes details of the qualifying features of conservation interest and the distance from the proposed development site for the designated sites.
- 8.6.4. Habitats present on the site include buildings and artificial surfaces, soil and bare ground, conifer plantation – including an area of mature conifer on wet heather / lowland blanket bog to the north east of the site, acid grassland rank, scrub, exposed siliceous rock, bracken, recolonising acid grassland, recolonising bare ground / quarries, upland eroding rivers, drainage ditches and acid oligotrophic lakes. Habitat maps are included in Appendix C-4 of the EIAR, Volume 3.
- 8.6.5. The identified habitats present on the replacement planting lands include improved agricultural grassland, treelines, hedgerows and a drainage ditch which forms the northern boundary. This drainage ditch has a general east – west direction and has no obvious connection to the Cloonflower Stream or any other significant surface water feature.
- 8.6.6. In terms of flora, the EIAR notes that no protected or invasive species were recorded within the study area during the ecological walkover survey. However, Japanese knotweed and Rhododendron were identified during previous pre-construction surveys at Cloosh and Rhododendron was recorded at Seecon. A programme of eradication and monitoring was undertaken for both wind farms. In terms of other flora, the EIAR notes that the study area lies within OS National 10km grid squares M03, M12 and M13. No listing for any rare or threatened species was found for the 10km grid squares M03 or M12. In 1993, one Red Data Book species, Darnel ryegrass *Lolium temulentum*, listed as endangered owing to a recent decline on the Aran Islands, was recorded in M13. This species was not recorded during the ecological studies.
- 8.6.7. With regard to fauna within the study area, and notwithstanding the presence of suitable habitat, the ecological surveys found no evidence of otter, badger or red squirrel, while there were sightings of a pine martin. While none of the trees or

buildings within the site are considered suitable for roosting bats, the forestry road verges are considered suitable for foraging bats. A bat survey was carried out in 2018 using four Song Meter SMZC Bat Detectors over 9 nights to establish activity. The results show that at least 6 bat species use the site, but not the Lesser Horseshoe Bat, who was not recorded at any of the four locations.

- 8.6.8. The development site, while limited in terms of habitat, is considered suitable for other mammals such as the Kerry Slug - who are considered to have been introduced to the area through forestry activities, Marsh fritillary and other terrestrial invertebrates.
- 8.6.9. The site is located within the Corrib and Owenboliska River catchments, with the Drimneen and Owenboliska Rivers intersecting the site. A biological assessment of water quality of watercourses affected by the proposed development were rated Q4-5 and all sites have been afforded unpolluted status with a high or good Water Framework Directive Status. Fish, including salmon, sea trout, brown trout and Sea Lamprey have been recorded in water courses draining and intersecting the site and there are records for freshwater pearl mussel in the 10km grid square M12. A freshwater pearl mussel catchment occurs within the Owenriff Catchment situated upstream of Lough Corrib. A tenuous link therefore occurs between the development site and this catchment as T9 drains to a river entering the SAC approximately 6km to the east.
- 8.6.10. Common frog, common lizard and smooth newt were recorded during pre-construction surveys in the with Galway Wind Park. While not recorded during the 2018 surveys, suitable habitat exists to support reptiles and amphibians, who are considered to breed within the development area.
- 8.6.11. In terms of birds, the EIAR notes that the EIS documents for the previously permitted Seecon and Cloosh windfarms included a suite of winter and breeding bird surveys as well as an assessment of impacts on birds recorded within the site. In addition, avian monitoring has been undertaken at the site during the construction phase of the Galway Wind Park and post-construction surveys are on-going. The response to the PAs further information request indicates that the EIAR and NIS is based on the baseline survey completed and, on the data, submitted. Table 4-11 of the EIAR lists the bird species recorded during the ecological walkover in 2018.

8.6.12. An evaluation of the habitats, flora and fauna within the development site is presented in Table 4-12. This evaluation identifies that the habitats, other than the Oligotrophic Lakes, are generally locally important ranging in lower to higher value. The Oligotrophic Lakes have an ecological value of international importance. The fauna evaluated all have an ecological value of national importance with a number having a value of international importance. I am satisfied that the EIAR provides a detailed description of the habitats present across the site which is sufficient to enable an assessment of potential impacts

Likely Significant Impacts

8.6.13. In terms of **designated sites**, I refer the Board to Section 9 of this report which deals with the Natura Impact Statement and deals with impacts to SACs and SPAs. The EIAR addresses the potential impact to other designated sites, NHAs and pNHAs in the vicinity of the subject site as follows:

- The Oughterard District Bog NHA (Site Code 002431), located approximately 270m from the proposed cable routes A and B. T9 is located approximately 175m from the NHA.
- The Moycullen Bogs NHA (Site Code 002364), located approximately 7km to the east.
- The Drimcong Wood pNHA (Site Code 001260), located approximately 10km to the east.
- Furbogh Wood pNHA (Site Code 001267), located approximately 12km to the south.
- Ballycuirke Lough pNHA (Site Code 000228), located approximately 12km to the east.

8.6.14. There are no watercourses draining to the NHAs or pNHAs from the site and mature forestry separates the cable route and turbine site from the Oughterard District Bog NHA. There is no spatial overlap or intrinsic ecological connection between the proposed development and Moycullen Bogs NHA, Drimcong Wood NHA or Furbogh Wood pNHA and no impact on the designated sites is anticipated.

8.6.15. With regard to Ballycuirke Lough pNHA, the EIAR notes that this site is designated for lakes and birds. While the development will not result in the loss of habitat at this

site, there is potential for indirect disturbance to birds commuting across the development site to and from the site. The EIAR concludes, in terms of water quality impacts, that the development will have temporary imperceptible negative impacts on Ballycurke Lough pNHA.

8.6.16. In terms of impacts on **habitats and flora**, the construction phase will result in the felling of 26.2ha of conifer plantation which will be a long-term imperceptible neutral impact. Existing verges, which constitute previously disturbed ground, will be temporarily disturbed to facilitate the laying of cable and the construction of the grid connection route. Habitats affected will include acid grassland rank and acid grassland rank/wet heath. Route Option B will involve the disturbance of acid grassland/bracken/wet heath mosaic where it deviates from the wind farm road to travel adjacent to the Owenboliska River through acid grassland/wet heath habitat and willow/birch scrub. Route Option B will also pass through conifer plantation. It is concluded that the disturbance to the habitats will be a temporary imperceptible negative impact. No impacts to habitats are anticipated during the operational phase.

8.6.17. In terms of **fauna**, the EIAR considers the construction phase and operational phase, and the potential impacts on a number of species. In the preparation of the EIAR, ecological site walk over surveys were carried out on the 30th April 2018 and a follow up walkover on the 2nd July 2019. In this regard, the following is relevant:

Badgers: The ecological site walkovers surveys found no evidence of badger within the development area, even though suitable habitat was present. However, the EIAR considers that there is potential for disturbance impacts to badgers during the construction phase and in particular, the felling of trees. In the event of breeding or foraging badgers being present there is potential for short term significant impacts to arise. Any avoidance of the area by badgers is expected to be a temporary slight negative impact. Once operational, the badgers utilise the habitats.

Overall, I am satisfied that the development would not result in a significant negative impact on badgers.

Otters: The site surveys noted no evidence of otters within the site or in the wider area. The EIAR presumes that the species forages / commutes along the water course network. The construction phase of the development is

anticipated as having a temporary slight negative impact. Any temporarily displaced otter during the construction phase is likely to use the habitats within and adjacent to the development in a short period of time. In terms of mitigation, pre-construction surveys are planned to ensure no species are present on the site when development works commence.

Having regard to the information available, I am generally satisfied that the development is acceptable in terms of the protection of otters.

Pine Martins: A pine martin was recorded within the development area during the 2018 ecological walkover. The conifer plantation is a suitable breeding and foraging habitat for the species. In terms of the construction phase, the impact on the pine martin is expected to be short-term moderate negative. Avoidance of the construction area will be a temporary slight negative impact. Any temporarily displaced pine martin during the construction phase is likely to use the habitats within and adjacent to the development in a short period of time.

Having regard to the information available, I am generally satisfied that the development is acceptable in terms of the protection of pine martin.

Red Squirrel: The conifer plantation is a suitable breeding and foraging habitat for the species. While there was no sighting of the red squirrel during the ecological walkovers, there have been previous records of the species to the south of the development area. In terms of the construction phase, the impact on the red squirrel is expected to be short-term moderate negative. Avoidance of the construction area will be a temporary slight negative impact. Any temporarily displaced red squirrel during the construction phase is likely to use the habitats within and adjacent to the development in a short period of time.

Having regard to the information available, I am generally satisfied that the development is acceptable in terms of the protection of red squirrel.

Bats: The applicant carried out a number of bat surveys over a 9-day period which identified a high level of activity from 6 different bat species. The Leisler's bat was the most frequently recorded species and the earliest recorded bat pass on most survey days. Location 4, to the north of the site and adjacent to the public road, was identified as having the earliest recorded bat passes on most survey nights with Leisler's, Common pipistrelle and Soprano pipistrelle having the

earliest recorded passes at this location. This Leisler's bat typically emerges 15 minutes after sunset while the pipistrelle species emerge 30 minutes after sunset. The survey results suggest that these species travel a distance to the site to forage and do not roost within the development area. The lesser horseshoe bat was not recorded at the site during the survey period.

As at least 6 bat species were recorded within the development area, the EIAR concludes that the habitats within the area are suitable for foraging bats. Water courses, lakes and forestry tracks are considered to offer suitable foraging for all bat species with the exception of the lesser horseshoe bat, which typically prefers broadleaf woodlands.

During the construction phase, the most likely impacts to bats will be the loss of habitat. However, the conifer plantation is not suitable for roosting bats and there will be no net loss of bat foraging / roosting habitat associated with the proposed project. The impacts therefore are considered to be long-term imperceptible neutral as there is an abundance of conifer trees in the area.

In terms of the operational phase of the windfarm bat mortality may result from collision with the new turbine structures or blades. The EIAR identifies two species at high risk from collision with wind turbines, Leisler's Bat and Nathusius Pipistrelle and two at medium risk, Common Pipistrelle and Soprano Pipistrelle. Of these species, the Leisler's bat and the Common pipistrelle were the most active at the site.

In the context of the site, where there are 57 no existing and active turbines, the EIAR notes that the bat suitability index rating on the NBDC website indicates that the habitats within the Galway Wind Park are of low value to bats in general, with a rating of 19-23 out of 100 for all bats. The turbines proposed will be 15.5m higher than the existing turbines in the GWP, but given the topography of the site, they will not protrude above the existing turbines. Impacts to bats in terms of collision are consider long term slight negative.

Having regard to the information available, I am generally satisfied that the development is acceptable in terms of the protection of bats.

Other Protected Mammals: The EIAR notes that while there is limited suitable habitat within the study area itself, the habitats within and extending from the

GWP are considered suitable for Irish mountain hare, pygmy shrew and fallow deer. With the exception of the Irish mountain hare, these species were not observed during the field surveys.

Kerry Slug: The EIAR notes that as part of the GWP Kerry Slug Management Plan, surveys were carried out pre and during the construction of the Park. Any Kerry Slug found was translocated to another suitable area and post-construction monitoring is on-going. As there is overlap between the sites, there is potential for the Kerry Slug to be present within the development area.

Potential impacts to the Kerry Slug are likely to arise during the felling of trees which is the preferred habitat for the species as well as direct mortality during the construction phase. The impacts are considered to be long term moderate to significant negative. The operation of the windfarm is not anticipated to result in additional impacts to the species.

The EIAR accepts that there is potential for the Kerry Slug to be present within the site within the forested areas to be felled for the turbines. I acknowledge that on-going Kerry Slug surveys are carried out in compliance with conditions of permission for the wider wind farm development and that pre-development surveys will be carried out under licence. The Kerry Slug is not a Qualifying Interest for the Natura Sites in proximity to the proposed development location. I would accept the conclusions of the EIAR as they relate to impacts on this species.

Marsh Fritillary

The butterfly species Marsh Fritillary is listed in Annex II of the EU Habitats Directive. There are known populations of the species at breeding sites in Connemara and it is known to be present within the Connemara Bog Complex SAC. A survey of potential Marsh Fritillary habitat was carried out in May of 2018 over 3 days along the proposed grid connection cable route options and within the development area. The results of the survey are included in Appendix C-2 of Volume 3 of the EIAR. As much of the site is now covered in coniferous plantation, only 2 areas of suitable habitat to the south east of the development area were identified. The best site for 'Devil's-bit Scabious remains the area at

the roadside in Knockranny where the larval web was observed during surveys in 2014 and 2016.

Overall I am satisfied, on the basis of the information set out in the EIAR which includes a recent walkover survey over 3 days in May 2018 and the nature of the habitat present, that there is unlikely to be any significant population of this species present. The EIAR does not identify any significant impacts on this species. This conclusion is accepted.

Other Terrestrial Invertebrates: The EIAR notes that habitats within the study area are suitable for butterflies, moths, dragonflies and damselflies. While a number of butterfly species were observed along the grid connection route options, no rare or threatened species were noted.

Birds: In terms of impacts on birds, the EIAR notes that the Galway Wind Park has been subject to an avian monitoring programme which focus on the winter season although a number of breeding season surveys have also been undertaken too. The main species targeted include key raptor and water bird species such as Greenland White-fronted Goose, Whooper Swan, White-tailed eagle, Hen Harrier, Merlin, Golden Plover and other species of conservation concern. Appendix C-3 of Volume 3 of the EIAR includes the most recent post-construction avian monitoring results. The impacts on Annex 1 species are assessed in the NIS.

The breeding bird survey was carried out over the summer months of 2017 – from April to September and the winter survey was carried out from October 2017 to January 2018. Both surveys include the subject proposed development area. Table 4-19 of the EIAR identifies the key species recorded within the GWP during the most recent monitoring and walkover surveys. The locations of the vantage points are identified within the survey reports and a total of 35 bird species recorded within the survey area. 10 of these species are of conservation concern, with a high sensitivity to development while the remaining amber listed species are considered have a medium sensitivity to development. Of the listed species, passerines, Sparrowhawk and Woodcock are known to use conifer plantation habitat within the development site boundary, for nesting and foraging. For high risk species who use bogs and

lakes, these habitats will not be removed or altered to facilitate the development.

The EIAR acknowledges that work taking place during the summer months could cause disturbance to breeding birds and could lead to a temporary displacement of some birds during the site construction. Disturbance impacts will be localised and confined to discreet locations within the Galway Wind Park and along the access roads.

During the operational phase, bird mortality may result from bird collision with the new turbine structure or blades. Collision risk depends on a range of factors including species, bird abundance, bird behaviour, weather, topography and wind farm design. Mortality from collision is associated with very high numbers of turbines and densities of birds and the location of wind farms within known key migration routes. Evidence to date suggest that the effects of wind farms are species and site specific and not all species are equally sensitive to collision. Larger birds are considered to be at greater risk due to their flight behaviour and mobility.

There is evidence that the rotor blades of wind turbines can displace or exclude some species, and in particular, larger wildfowl and some raptors. Reference is made to a study at a wind farm in Wexford which observed that cormorants, post construction in 2003 avoided the wind farm and flew around it in a wide berth. By 2010, monitoring at the same wind farm observed cormorants flying between turbines at rotor height or above suggesting that this species was temporarily displaced due to the wind farm. Any displacement impact or avoidance behaviour at the subject site is considered to be a short term slight negative impact within minimal displacement of bird species arising.

In terms of impacts on birds, the following is relevant:

Passerines: The loss of the conifer habitat has the potential to impact on passerines such as Goldcrest and Robin which are frequent within the site. The inevitable loss of the habitat will reduce the feeding and nesting opportunities for bird but direct habitat loss will be limited as the tree felling will be keyhole and most of the felling required has already been completed across the GWP with the exception of the proposed 9 turbines. In addition, most of the

infrastructure required to facilitate the project has been completed. The loss of this habitat is considered a long-term imperceptible negative impact on passerines.

Some disturbance to breeding passerines is expected if construction takes place during the breeding season. The EIAR considers the impact to be temporary imperceptible negative as the work areas will be widely spaced out and the presence of ample foraging habitat.

Collision risk is not considered to be significant and the potential for collision is low.

Birds of Prey: Avian monitoring suggest that there is ample foraging habitat within and surrounding the GWP, including blanket bog, lakes and smaller areas of semi-improved agricultural grassland/wet grassland. There was no evidence of breeding raptors within the park. The EIAR considers that the loss of the conifer habitat will not significantly impact the species and will not result in significant habitat loss for birds of prey. The loss of this habitat is considered a long-term imperceptible negative impact on birds of prey.

With the exception of Sparrowhawk, disturbance to birds of prey due to construction is considered a temporary imperceptible negative. While there is no evidence of breeding raptors within the development site boundary, there is potential for short-term moderate negative impacts should the development phase disturb breeding activity in the area.

In terms of collision risk, the abundance and diversity of bird of prey species is low, with Hen Harrier, White-tailed eagle, Kestrel, Merlin and Sparrowhawk identified during the most recent monitoring survey. The most at risk of collision are Merlin, White-tailed eagle and Hen Harrier due to soaring while moving between foraging and breeding habitats. However, the potential for significant collision risk is considered to be very low. This is due to the low densities of the species recorded in the area, the negligible change in baseline conditions and the lack of observation of birds of prey within the GWP.

Swans, Geese, Ducks, Gulls and Waders: A number of Swans, Geese, Ducks, Gulls and Waders species were observed in the area during the surveys. The bogs and lakes in the area, and within the GWP offer suitable

feeding and breeding habitat for species listed in table 4-19 of the EIAR, while the conifer plantation is not a suitable habitat other than potentially for woodcocks. Overall, the habitat loss associated with the project will not significantly impact woodcock and the impact of the habitat loss is considered to be long-term imperceptible negative.

With the exception of Whooper swan and Greenland white-fronted goose, species of Swans, Geese, Ducks, Gulls and Waders were not recorded within the GWP, and most flight paths during monitoring have been outside the development area. The majority of foraging and roosting sites occur outside the development area in surrounding lakes and bogs habitats. Whooper swan was recorded on 2 occasions inside the GWP during the winter 2017/2018 survey, with activity concentrated in and around Seecon Lough, which is within the development boundary, and Lettercraffroe Lough. Greenland white-fronted goose has been recorded to the south of the Galway Wind Park.

Whooper Swan: The EIAR notes that this species may commute over the development area, between Seecon Lough and the river valley to the south east. The habitats within the subject development site are not of value to Whooper swan and it is noted that the closest turbine to Seecon Lough, T31, is approximately 640m to the north west of the Lough. This distance lies just outside the disturbance threshold of 600m for the species.

The turbines are proposed within a conifer plantation, considered an unsuitable commuting habitat for the species. While there is potential for temporary disturbance to Whooper swans and avoidance of Seecon Lough due to construction, it is considered a temporary slight negative impact.

Greenland white-fronted goose: The EIAR notes that this species occasionally commutes over the development area, between suitable foraging and breeding habitats which occur outside the development area. Ongoing monitoring notes that observations of the species are infrequent and has been almost exclusively outside the GWP boundary. The habitats within the subject development site are not suitable for Greenland white-fronted goose and the potential for disturbance to

Greenland white-fronted goose is considered a temporary imperceptible negative impact.

In terms of collision risk, the populations of waders, gulls, ducks, geese and swans are considered to be at risk, given the generally low densities of the species, and the lack of any records of breeding species within the GWP. Breeding Golden Plover have been observed outside the site boundary and the EIAR notes that this species may fly at turbine height while commuting between foraging and breeding habitats. The EIAR concludes that the potential for significant collision risk is very low.

Aquatic Fauna: Fish species recorded within the water courses draining and intersecting the development area include Atlantic Salmon, Sea trout, Brown trout and sea lamprey. The Owenboliska River supports populations of Atlantic Salmon and Sea Trout as well as Brown Trout. Atlantic Salmon is listed in Annex II of the EU Habitats Directive and is a Qualifying Interest of the Connemara Bog Complex SAC.

The grid connection route Option B occurs in proximity to a Freshwater Pearl Mussel sensitive area associated with the Knock River. This route option, however, does not intersect any watercourse which drains to the Knock River Catchment. A Freshwater Pearl Mussel catchment occurs within the Owenriff Catchment located upstream of Lough Corrib. Lough Corrib is located approximately 6km from the nearest turbine, T9.

Impacts on aquatic fauna have potential to arise in terms of impacts on hydrology and water quality. The release of pollutants used during the construction phase into surface waters has the potential to impact negatively on aquatic habitats and the fauna the habitats support. Direct impacts to aquatic fauna are not considered likely and indirect impacts are considered to be short term slight negative to short term moderate negative.

The early operational phase of the development has potential for temporary moderate negative impacts to water quality due to potential run-off from exposed areas.

Having regard to the information available, I am generally satisfied that the development is acceptable in terms of the protection of aquatic species.

Reptiles & Amphibians: The EIAR noted that although the common frog, common lizard or smooth newt were not recorded during the 2018 ecological walkover, suitable habitat is available throughout the development area. Both species were recorded during pre-construction surveys and the impact to these species is considered to be temporary slight negative during the construction phase. Any temporarily displaced common frog or common lizard during the construction phase is likely to use the habitats within and adjacent to the development in a short period of time.

Having regard to the information available, I am generally satisfied that the development is acceptable in terms of the protection of Reptiles & Amphibians.

8.6.18. In terms of **decommissioning impacts**, if it is decided to remove the wind farm at the end of its operational life, the EIAR advises that a comprehensive reinstatement proposal, including implementation programme, would be submitted to Galway County Council for approval. It is expected that there would be some temporary noise disturbance to fauna during the works, but direct disturbance to foraging and breeding habitats is not reasonably foreseeable. Section 4.5.6 of the EIAR deals with decommissioning impacts and advises that an environmental assessment will be undertaken at that time to ascertain whether or not it would be more environmentally damaging to remove or keep in place the underground cables and access tracks. If cables are to be left *in situ*, no reinstatement works will be required for this element of the decommissioning phase.

Cumulative Impacts

8.6.19. With regard to cumulative impacts, the EIAR notes the permitted and operating wind farms in the vicinity of the site as well as the other associated electricity developments. There will be no cumulative habitat loss and cumulative impacts on ecologically sensitive sites or fauna are not expected. Any temporary avoidance of the construction area by fauna is not considered significant.

8.6.20. There is potential for cumulative water quality impacts to occur in combination with permitted developments in the area and in the absence of appropriate mitigation measures. The EIAR concludes, having regard to the project design and water quality protection measures, as well as the mitigation measures to be implemented, potential cumulative impacts are not considered significant.

- 8.6.21. In terms of relevant plans, it is noted that the subject site lies within the areas identified as 'Strategic Area for Wind Development' in the Galway Wind Energy Strategy. This strategy has been subject to SEA and AA. No cumulative impacts are predicted.
- 8.6.22. In terms of ongoing activities, forestry, agriculture and peat extraction, there is potential for the proposed development to contribute to a cumulative impact on water quality. However, it is considered unlikely that a significant negative cumulative impact to water quality will arise subject to appropriate mitigation measures.
- 8.6.23. Section 4.5.7.8 of the EIAR considers the cumulative impact on birds. The area in the vicinity of the development area does not appear to support a sizeable winter or breeding population of key species, low numbers were observed during avian monitoring and there are no obvious consistent flight paths observed, cumulative impacts are considered unlikely to be significant.

Mitigation Measures

- 8.6.24. Section 4.6 of the EIAR sets out the mitigation measures. It is noted that the development has been considered in terms of mitigation by design as well as mitigation by management. In this regard, and having read the EIAR in full, it is accepted that the development has been designed to avoid ecologically sensitive areas. In addition, it is noted that the proposed development seeks to utilise the existing roads and infrastructure which has been permitted and constructed as part of the wider Galway Wind Park. In terms of mitigation by design, a felling distance of 95m around each proposed turbine will be maintained so as to comply with guidelines for minimising impacts to foraging bats.
- 8.6.25. Mitigation by management will include the appointing of an Environmental Manager / Ecological Clerk of Works during the construction phase of the development. This project ecologist will be awarded a level of authority to stop construction activities if there is a potential for adverse environmental effects other than those predicted and mitigated in the EIAR. A Construction and Environmental Management Plan will be implemented and will take cognisance of Construction Industry Research and Information Association CIRIA, technical guidance on water pollution control.
- 8.6.26. In terms of disturbance to fauna, the following mitigation measures are proposed:

- Controlled movement of maintenance vehicles which will not encroach onto habitats beyond the development footprint
- Construction activities will be restricted to between 7.30am and 7.30pm Monday to Friday and between 8am to 6pm on Saturdays. Construction work will not take place at night except in exceptional circumstances.
- If protected species are found actively using the site for breeding/roosting during the construction phase, works will cease immediately, and the area cordoned off until advice is sought from suitable experts / NPWS.
- Should resting or breeding places of any protected species be discovered during construction works, the NPWS will be informed.

8.6.27. Pre-construction surveys are proposed for badgers, otters, pine martins and red squirrel to ensure that newly established setts, holts, dens or dreys do not occur within the work area before construction begins. Should any of the features be identified, additional surveys / enabling works will only be undertaken under appropriate NPWS licence. In relation to the Kerry Slug, it is noted that metric trapping and translocation was undertaken prior to felling activity to facilitate the construction of turbines in the GWP under NPWS licence. Under conditions of planning permission, Kerry Slug surveys are on-going in the Park. Pre-construction surveys for the Kerry Slug will be carried out under appropriate NPWS licence and all methodologies will be approved in advance by the NPWS.

8.6.28. With regard to mitigation for bats, the use of 'white lights' on the turbines will not be permitted. In addition, fatality searches will be carried out which will be agreed with the NPWS.

8.6.29. With regard to birds, again, the use of 'white lights' on the turbines will not be permitted. In addition, bird surveys will be carried out prior to and during the construction phase and will continue during the operational phase. Monitoring will include vantage point watches from the same locations used in the on-going ornithological surveys. Fatality searches will also be carried out.

8.6.30. An invasive species survey will be undertaken prior to commencement of construction. Should newly established invasive species be identified an Invasive Species Management Plan will be incorporated into the final CEMP.

8.6.31. To protect water quality, the most appropriate best practice method will be adopted for any/all water crossings. Water crossing methods will not directly affect the watercourses of associated species such as otter and all works will be carried out in compliance with the final CEMP.

Residual Impacts

8.6.32. The significance of residual impacts is considered to be imperceptible subject to the appropriate mitigation measures and best practice methodologies recommended are provided in the CEMP and implemented.

Conclusion

8.6.33. The Board will note the third-party concerns raised in relation to the impact of the proposed development on biodiversity, including a number of bird species as well as other fauna and flora. Of note, a third-party submission to the PA suggests that there are 2 White Tailed Eagles nesting in Seecon which will be killed if larger turbines are permitted. The EIAR submitted in support of the proposed development includes details of avian monitoring which has been carried out across the site and the wider Galway Wind Park and accepts that the most at risk of collision are Merlin, White-tailed Eagle and Hen Harrier 'due to soaring while moving between foraging and breeding habitats.' The EIAR concludes that the impact to these birds is very low due to low densities and negligible changes to baseline conditions. The EIAR also notes the lack of observation of birds of prey within the GWP.

8.6.34. Overall, I am generally satisfied that the EIAR has adequately considered value of the development site and surrounding area for biodiversity, including habitats, flora and fauna. Having regard to the information submitted, and the on-going monitoring programme for the wider Galway Wind Park, I consider that the EIAR is adequate to allow for an evaluation of impacts to be completed. I have considered all of the written submissions made in relation to biodiversity, and I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions including monitoring conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of biodiversity.

8.7. Land & Soils

- 8.7.1. In terms of likely significant impacts arising with regard to land, soils and geology, I refer the Board to Chapter 5 of the submitted the EIAR. The assessment is based on a desk top study and the data from the Environmental Impact Statements prepared as part of PA ref 10/303 and 11/429 – ABP ref PL07.239118. The published soils map and site investigations indicate that peat occurs across the windfarm site and ranges in depth from 0.3 to 1.5m in depth at the proposed turbine locations.
- 8.7.2. The local bedrock geology of the site includes fine grained Devonian age Sheanapheistin Granite with minor areas of coarse grained Megacrystic-Porphyrific Granite. A number of areas of geological heritage have been identified in area surrounding the subject site, although none occur within the site or at the location of the substation. The main soil associated with this area of County Galway belong to the 'Mountain and Hill' brad physiographic division with the overburden soils identified as 'high level blanket peat' deposits. High level blanket peat typically occurs above 150mOD and has a moderate moisture content.
- 8.7.3. In terms of peat instability or failure, the Board will note that this refers to a significant mass movement of a body of peat that would have an adverse impact on the proposed development, proposed construction access road and the surrounding environment. The EIAR notes that a peat stability assessment was carried out by Fehily Timoney and Co. as part of the original planning applications for the Cloosh and Seecon wind farm developments. The report identified a potential peat landslide hazard at the site. Mitigation measures to reduce the likelihood of a slide occurring, including the relocation of turbines, access roads, were applied at preliminary design stage. A summary of the findings of the Hazard and Risk Assessment carried out by Fehily Timoney and Co. for the turbine locations included with the current EIAR is presented in Table 5-3 and the Residual Risk Zones are summarised in in Figure 5-10.
- 8.7.4. A summary of the ground conditions at each turbine location based on the trial pit investigations is presented in Table 5-3 of the EIAR. It is noted that the proposed location of T30 was rated as undesirable in the above-mentioned Peat Stability Assessment. however, the EIAR submits that since the production of the report, an access road was constructed on the downslope of T30. This road will provide

stabilisation to the peat in this area and reduces the risk of a peat slide to an acceptable level.

8.7.5. In response to the PAs request for further information, the applicant submitted Chapter 4 of the Fehily Timoney and Co Geotechnical Report for both previous decisions, which deals Slope Stability and Blasting. The Board will note that the proposed T9 = T15 and proposed T30 = T6 of ABP ref PL07.239118, while proposed T40 = T13 of PA ref 10/303. These relocations are advised to be necessary due to conflict with cables and to suit site conditions.

8.7.6. In terms of likely significant impacts on land and soils, it is noted that the existing environment is highly modified due to the presence of the wider wind energy developments and forestry. These activities have disturbed the peat and subsoils throughout the site. The EIAR identifies a number of on-site activities as the source of potential risk to the geology, land, hydrogeology and peat stability on the site.

- Impact on Land Use:

The land area within the footprint of the proposed turbine bases, hard standings, access roads, cable trench and substation and the borrow pits will be sterilised from their existing land use for the duration of the operational life of the wind farm. These areas can be reinstated at the end of the operational life of the project and can be used again for commercial forestry or rough arable land. The potential impact on land use is therefore considered a slight negative medium-term reversible impact.

- Impact on slope failure:

This section of the EIAR uses the data collected during the Peat Stability Assessment reports prepared as part of the original applications for permission for the windfarms. The environmental impacts associated with a slope failure on a number of watercourses could include the influx of acid and / or peat laden waters, resulting in a decrease in water PH values and impact on the aquatic ecosystems. With regard to European Sites, the movement of displaced peat could result in long term damage to water bodies and / or loss of bog habitat and associated species. Slope failure also has the potential to impact on the safety of construction and forestry workers.

Design mitigation measures located the turbines and roads away from areas of

deep and / or weak peat within the site. It is noted that the location of the proposed turbines, save for T9, T30 and T40, all remain the same as previously permitted. The three turbines are to be located between 6m and 11m from the consented locations and within the same landslide risk zone. The EIAR submits that the findings of the Peat Stability Assessment remain valid in the context of the current application.

- Impact of excavations:

Rock excavation will have a direct, permanent impact on the borrow pit, which have been selected in areas of minimal peat coverage. It is proposed that these areas will be excavated to depths ranging from 0.35m to 5m and will be reinstated with surplus material soil and excavated peat from the site. Other potential impacts arising from excavation include increased erosion and sediment release from excavated material and exposed ground, uncontrolled excavation and removal of peat giving rise to peat instability, uncontrolled stockpiling of material on peat, dewatering of excavations, vibrations caused by construction traffic, soil compaction and chemical pollution.

- Storage and management of excavated material:

It is not intended to remove any excavated materials from the site and all peat will be reused in the reinstatement of the turbine bases, hardstanding areas, site compound, borrow pits and cable trenches or placed in borrow pits or peat deposition areas.

The impact of storage and management of materials represents a moderate permanent negative impact on the land and soils environment.

- Impact of borrow pit blasting:

The EIAR notes that blasting may be required at the borrow pits. If required, this will result in some level of ground vibration and air overpressure. If uncontrolled blasting could result in liquefaction of peat and could contribute to slope instability and give rise to excessive dust.

The impact of blasting represents a moderate temporary negative impact on the land and soil environment.

- Impacts of proposed substation:
The substation is not expected to produce any additional impacts on land and soils.
- Impacts due to operation and maintenance:
Potential impacts on land and soils due to excavations will be lower during the operation of the project, although some erosion may continue into the operation phase until vegetation becomes established. All vehicular movements during operation and maintenance phase will be restricted to the existing and proposed roads with risks to peat and slope stability considered to be minimal.
The impact during this phase is considered slight temporary negative on the land and soil environment.
- Cumulative impacts:
The EIAR advises that cumulative impacts due to the interaction with other nearby developments and activities have been considered and due to the relatively static nature of soils, geology and land use, it has little potential to cause cumulative impacts except where influenced by gravity. Potential cumulative impacts are considered in terms of potential linkage pathways relative to shared receptors primarily in relation to hydrogeology, the potential for landslides and potential clashes between existing and permitted underground electrical infrastructure.
Overall, the potential for significant cumulative impacts on land and soils arising from the proposed project and existing wind farms is considered to have a slight permanent negative impact.
- Decommissioning phase:
It is envisaged that the turbine components will be removed but access roads will remain in place. Hard standings and foundations will be reinstated to match the surrounding landscape and it is anticipated that the decommissioning phase will require minimal earth works.
The impact of the decommissioning phase is considered to be slight negative long term.

Mitigation Measures

- 8.7.7. Section 5.4 of the EIAR sets out the mitigation measures proposed to avoid or reduce the potential impact of the development as described. The measures are as per those included in the EISs produced by Fehily Timoney and Co for the Cloosh and Seecon Wind Farms which include the currently proposed 9 turbines. Mitigation by design has located the turbines, roads, borrow pits and other site infrastructure so as to reduce the impacts on land and soils and have been located in areas of least peat depth and highest peat stability, avoiding the need to traverse steep or potentially unstable slopes.
- 8.7.8. In addition to the above and with regard to development in upland areas and slope stability issues, detailed design best practices will also be implemented as part of the CEMP and which will include the carrying out of risk assessments and the preparation of method statements for each element of the works and will be checked by suitably qualified and experienced professionals. Other mitigation measures include:
- It is noted that the current land use can be reinstated at the end of the operational life of the windfarm.
 - In terms of slope failure, the primary mitigation measure to reduce risk is in the design of the project. A risk assessment was undertaken for the site previously and is still considered valid. A number of procedures are to be implemented to mitigate against slope failure in terms of drainage, working from access roads or hard standing areas, management of tree felling, controlled drilling or blasting where needed, implementation of catch ditches in accordance with the Peat Landslide Hazard and Risk Assessment Guidelines 2017 and the development of an emergency plan. All works will be supervised by suitably qualified personnel.
- In addition to the above, a monitoring programme will be put in place during the construction phase of the development. Appropriate contingency plans and reporting procedures for peat instability will also be prepared as part of the CEMP and post construction maintenance and monitoring regimes will be implemented over the lifetime of the windfarm.

- In terms of excavation, the design mitigation measures already employed seek to minimise the volumes of peat extraction and the lengths of road construction and turbine bases have been designed to avoid areas of deep peat.

Drainage will be provided away from areas of deep peat and machinery will not operate directly on peat, with the exception of tree felling and drainage construction, which will use low bearing pressure vehicles. All temporary cuts / excavations will be carried out so that they are stable or appropriately supported.

Excavated peat from the turbine bases and cable route will be reused on site and reinstated as part of landscaping.

- The storage and management of excavated material is also addressed in the EIAR. Mitigation measures include the reducing overall peat excavation by design, planting and re-seeding material storage areas – including borrow pits and peat deposition areas, and drainage measures for the reinstated peat storage areas. No peat berms will be permitted.
- Cable trenching will involve the removal of soil, subsoil and bedrock. Temporary storage of material beside the trenches will be done in line with the CEMP and all soils and peat will be reused within the site. In the event that material requires removal from the site during the construction phase, this will be done by a licenced contractor.
- Rock blasting within borrow pits will only happen if extraction using rippers or hydraulic breakers is deemed impractical. A detailed assessment of the impact of blasting will be undertaken at each borrow pit to ensure that a peak particle velocity of 10mm/s is not exceeded at a distance of greater than 20m from the blast. If this is not achievable, blasting will not be permitted. A rock blasting plan will be prepared as part of the CEMP.
- During the operational and maintenance phase of the development, the potential impacts on land and soils will be lower. Some erosion of soil may continue but as vegetation becomes established the rate will reduce to levels in line with existing conditions prior to commencement of the development. All vehicular movement will be restricted to roads and areas of hard standing.

- The potential for cumulative impacts arising on land or soils from the proposed development is considered negligible. As such, no specific mitigation measures are proposed or considered necessary.
- Decommissioning will involve the removal of the turbines from the site. The access roads are likely to be left in place and hard standing areas will be reinstated. Cables may be removed from the trenches, but the ducts may be left in place.

Residual Impacts

8.7.9. No significant negative residual impacts are envisaged in terms of land and soils following the development and operation of the project.

Conclusion

8.7.10. I have read and considered all of the submissions made in relation to land and soils. The EIAR has presented adequate information in relation to the proposed development in terms of land, soils, geology and hydrogeology, including mitigation and monitoring proposals.

8.7.11. I am satisfied that the impacts identified, as well as the potential for peat failure, will be avoided and managed through specific proposals identified in the EIAR. The mitigation measures presented are detailed and represent best construction practice.

8.7.12. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of land and soil. I am also satisfied that cumulative effects are not likely to arise and no significant residual impacts are anticipated.

8.8. Water

8.8.1. Chapter 6 of the EIAR addresses the issue of water and seeks to describe the existing hydrological characteristics of the proposed project within the existing Galway Wind Park. With regard to water quality and aquatic wildlife, the key hydrological issue is the modification of surface water bodies. This chapter of the EIAR presents the results of the examination of the existing environment and the impact assessment carried out to determine the potential threats to hydrology as a result of the proposed development. The pre-existing planning consent is noted to

cover some components of the proposed development and all elements required to deliver the project have been considered, including the proposed grid connection options.

- 8.8.2. The soils within the proposed development site are predominantly Blanket Peat with shallow reasonable drained mineral soil derived from mainly acidic parent materials (granite). The land within the project site comprise coniferous forestry, areas dominated by heath and agricultural lands as well as the existing access tracks associated with the wider wind energy developments in the area. The area is also drained through the existing forestry drainage systems as well as those in place as part of the Galway Wind Park. The drains are collected by interceptor channels adjacent to the existing tracks and the flow is conveyed, after passing through check dams / settlement areas to the nearest watercourse. Bog pools and flushes within the site are noted as possibly being prone to flooding and the artificial surface water network discharges to small upland streams, rivers and acid oligotrophic lakes.
- 8.8.3. The methodology employed included an examination of the existing hydrological regime and an assessment of the potential impacts was carried out through a desktop review in combination with site surveys carried out on the 27th and 28th March 2018. A water quality assessment was undertaken within the Owenboliska River Catchment and a number of watercourses are intersected by the proposed development including Sliabh an Aonaigh, Ugool and Finnaun Streams. Surveys and sampling were undertaken at a number of locations within the Owenboliska River catchment as indicated on Figure 6-1 of the EIAR. One of the turbines, T9, is located within the Drimneen sub-catchment with the River Corrib Catchment while the replacement land is drained by the Cloonfower Stream.
- 8.8.4. The most recent EPA biological water quality ratings for the rivers draining the proposed development site, the Owenboliska, Drimneen and Loughkip Rivers, indicate that in 2018, the rivers were rated 'Unpolluted (Q4-5)'. The range of physico-chemical water quality parameters were measured on-site during March 2018 and the results are reflective of the siliceous nature of the study area and the Dissolved Oxygen values were all within the range for good water quality. The sensitivity of surface waters is considered very high due to the presence of pollution sensitive indicators. With regard to flood and landslide hazard, a recurring flooding incident is

identified downstream of the site on the Owenboliska River upstream of Boliska Lough. There have been no documented landslides in the immediate study area.

8.8.5. In terms of groundwater, the underlying bedrock is predominately granite and other igneous intrusive rocks. The dominant aquifer is classified as a 'poor aquifer which is generally unproductive except for local zones' (PI). Within the proposed development site, there are areas of high, moderate and extreme vulnerability as well as areas with 'rocks at or near the surface or Karst'. This vulnerability rating suggests that any contamination will encounter limited attenuation prior to reaching the bedrock. The southern area of the site is classified as low to moderate in terms of vulnerability.

8.8.6. Section 6.4 of the EIAR identifies that there is potential for impacts on the hydrological regime or water quality as follows:

- Increase in flooding:

Forest felling and the introduction of new hard surfaces have the potential to contribute to increased run-off which has the potential to cause soil erosion and consequent sediment release into watercourses.

- Cumulative flood and Water Quality:

There are potential cumulative hydrological impacts within the Owenboliska River catchment from forestry operations and neighbouring windfarms. Mitigation measures to avoid / minimise adverse water quality impacts from the adjacent permitted wind energy developments have been implemented through best practice and monitoring and the most recent water quality ratings indicate unimpacted conditions. It is anticipated that as the development is located away from hydrologically sensitive areas and will be set back from hydrological features, they will not be impacted on by excavations or drains. Given the commercial forestry in the area, it is noted that phosphorus is added either manually or mechanically, including ariel fertilisation. Where trees are removed, a portion of the added phosphorus will not be taken up by vegetation and will remain in an inorganic particulate form. During rain-storm events, there is potential for this to enter surface waters. If the area harvested is replanted, and vegetation establishes, it is unlikely that this source of phosphorus will enter surface waters.

The cumulative effect of the permitted and proposed development is

considered negligible in terms of impacts on geology, hydrogeology and peat stability.

- Impacts on hydrology during tree-felling:
During the construction phase, including the keyhole felling of trees, the development has the potential to lead to impacts on hydrology and water quality unless appropriately mitigated. No significant increase in the rate of run-off is anticipated as a result of felling.
- Impacts on Hydrology during construction:
Potential impacts may arise during the construction phase of the development due to peat excavation, increased hard surface areas, earthworks including excavation works and borrow pits, accidental spillages during refuelling and maintenance activities and changes to water courses and drainage patterns.
- Operation and maintenance of the wind farm:
The main potential surface water impact is a slight increase in run-off from a storm event to the Owenboliska River. Oils and lubricants present within turbines and ancillary equipment will be managed as part of the operational management and maintenance processes.
It is not anticipated that maintenance activities, including maintenance of drainage systems, will give rise to any significant impacts on the hydrological regime of the area.
- Potential impacts at replacement lands:
The planting of commercial forestry has the potential to represent a risk of sedimentation release to the Cloonfower Stream which could cause water quality deterioration with knock on effects on aquatic biota.

Table 6-12 of the EIAR sets out a summary of potential hydrological impacts and their significance on sensitive receptors.

Mitigation Measures

- 8.8.7. A suite of mitigation measures are proposed and the EIAR notes that mitigation by design have been incorporated into the design of the project in terms of buffer zones to streams and lakes and the use of existing forestry and wind farm tracks to minimise the need for new roads. In terms of mitigation by management,

environmental protection measures include siltation and erosion control, management of excavated material and soil, dewatering procedures, as well as employment of an Ecological Clerk of Works. A robust drainage system is to be put in place to control run-off and manage sediment transport during the construction phase. The drainage system will provide for a three-stage treatment train of the discharges as recommended in the SUDS manual.

- 8.8.8. Dedicated settlement ponds will be provided adjacent to the proposed borrow pit locations, hard stands, substation and mineral / peat soil storage areas. During the pouring of concrete, effective containment measures will be implemented to avoid spills and to prevent concrete entering any drainage system. Storage of cement bound granular mixtures will be on hard stand areas and a fuel management plan will be developed with fuel to be stored in doubly bunded browsers or in bunded areas at the site compound. No areas of intact blanket bog will be used for the storage of peat and an Environmental Manager will be appointed to provide audit checklists to ensure regular checks for the site's control measures.
- 8.8.9. During the operational and maintenance phase of the development, the potential impact on water quality relates to the minor risk of oil spillages. Wastewater arising due to sanitary facilities will be mitigated by appropriate treatment and all vehicular movement during the operation and maintenance will be restricted to the areas of hardstanding and existing / newly constructed access tracks. In terms of the replacement lands, the developer will adhere to the Forestry and Water Quality Guidelines, DMNR 2000.

Residual Impacts

- 8.8.10. The EIAR concludes that with the mitigation, the significance of the residual impact on the water environment during the construction and operational phase of the development is assessed as imperceptible negative to minor negative. No significant negative impacts are envisaged to adversely affect surface water quality, surface water flows or ground water resources.

Conclusion

- 8.8.11. In terms of impacts on water quality, overall, I am satisfied that the development would not have a significant adverse impact on water quality subject to the proper implementation of the proposed mitigation measures as detailed in the EIAR and the

Construction and Environmental Management Plan. The identified measures are comprehensive and include ongoing inspection, water quality monitoring and maintenance.

- 8.8.12. I have considered all of the information presented in relation to Water Quality. I also note the report from the Environment Section of Galway County Council who raised concerns in relation to the potential effects of the proposed development on the watercourses within and downstream of the proposed site. I also note that the Department included the report from Inland Fisheries Ireland which was submitted to An Bord Pleanála in relation to ABP ref 303086-18 – the Ardderroo Wind Farm development. It is requested that if permission is granted, conditions be applied in addition to the conditions recommended by IFI.
- 8.8.13. Overall, I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures proposed as part of the project, the proposed mitigation measures and through suitable conditions including monitoring conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of Water Quality.

8.9. Air Quality & Climate

- 8.9.1. Chapter 7 of the EIAR deals with air and climate and focuses the assessment to whether the proposed modifications to the permitted development and additional elements comprising grid connection are acceptable in themselves and cumulatively with the consented development. The EIAR notes that there are no large industrial sources of air pollution in the area and the air quality can be described as 'good'. The likely significant impacts associated with the project are addressed in section 7.3 of the EIAR where it is noted that the extent of tree felling will be the minimum necessary to construct the turbines and associated roads and substation.
- 8.9.2. During the construction phase, the main potential impact on air quality comprises fugitive dust and vehicle emissions associated with earthworks, transportation and unloading of stone, vehicular movement of hard dusty surfaces and vehicular movement over material potentially carried off site and deposited on public roads. The movement of machinery, construction vehicles and the use of generators will generate exhaust fumes.

- 8.9.3. The Board will note that a primary issue raised by third parties in relation to the proposed development relates to issues with dust during the construction phase, and in particular the delivery of the turbines over the local road at Doon East. It is submitted that the applicant failed to adhere to the procedures set out in their Construction Dust Management Plan and that the community suffered as a consequence. It is noted that dust monitoring was carried out, but questions were raised in relation to the manner in which this monitoring was undertaken and the results of the monitoring were not shared. As a result, dust related health issues are said to have been experienced by previously healthy residents.
- 8.9.4. Given the limited extent and duration of the earthworks, and the mitigation measures to be implemented to control fugitive dust emissions, as well as the distance to sensitive receptors, it is considered very unlikely that the works will result in an adverse impact on ambient air quality on the surrounding area other than during the delivery of the turbines. There will be no potential significant impacts on air quality during the operational phase of the development as there are no emissions.
- 8.9.5. In terms of impacts on climate, the EIA submits that the benefits of electricity generation from wind are considered to be its contribution to environmental sustainability and displacement of imported fossil fuels. The proposed development will generate enough electricity to supply the needs of approximately 29,337 households per year, reducing the need for electricity from coal or gas burning stations and thereby reducing carbon dioxide emissions. It is predicted that the proposed change in turbines will offset a further 24,020 tonnes of CO₂ per annum from the permitted turbines.
- 8.9.6. The development proposes to replant any tree felling to accommodate the project at an alternative location.

Mitigation Measures

- 8.9.7. Mitigation measures are proposed in terms of air and climate particularly during the construction phase of the development in order to minimise the potential for fugitive dust emissions in particular. Mitigation measures include the use of a water bowser to spray tracks and crane hard standings, inspections of public roads, control of traffic speed, stockpiling of materials and regular maintenance of plant and equipment. A Traffic Management Plan will be implemented to minimise congestion.

Residual Impacts

- 8.9.8. No significant negative residual impacts are envisaged in terms of the air and climate, once operational. The operation of the wind farm will displace CO₂ emissions.

Conclusion

- 8.9.9. I have read and considered all of the submissions made in relation air and climate. I would acknowledge that the development may give rise to some impacts to local residents during the construction phase of the project. However, I am satisfied that the impacts identified will be temporary and short-term and can be managed through specific mitigation proposals identified in the EIAR. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts in terms of air and climate.

8.10. Noise & Vibration

- 8.10.1. The issue of noise and vibration are considered in Chapter 8 of the EIAR. The EIAR notes that as the proposed turbines are to be located within the existing Galway Wind Park, the potential for cumulative impact is greater than the potential for impact as a standalone project. The methodology used in the preparation of the noise impact assessment to assess the operational phase of the development is set out in section 8.1.3 of the EIAR and considers the impact of the construction of associated infrastructure. Given the rural context of the site location, all sensitive properties in the vicinity of the site are afforded a category A status in terms of threshold values.
- 8.10.2. Section 5.7 of the Draft Revised Wind Energy Development Guidelines, 2019, which sets out proposed Revisions to Wind Energy Development Guidelines 2006 – Targeted Review in relation to Noise, Proximity and Shadow Flicker, deals with Noise from Wind Energy Developments. It is the key objective of the document to control noise generated by wind turbines to achieve a balance between the protection of amenity and meeting Ireland’s renewable energy targets. The 2006 Wind Energy Development Guidelines states that ‘in low noise environments where background noise is less than 30 dB(A), it is recommended that the daytime level of the L_{A90, 10min} of the wind energy development noise be limited to an absolute level within the range of 35-40 dB(A)’.

- 8.10.3. The 2019 Draft guidelines note that the “preferred draft approach”, announced by DHPCLG and DCCAE on 13th June 2017, proposed noise restriction limits consistent with WHO Guidelines, proposing a relative rated noise limit of 5dB(A) above existing background noise within the range of 35 to 43dB(A), with 43dB(A) being the maximum noise limit permitted, day or night. The noise limits will apply to outdoor locations at any residential or noise sensitive properties.
- 8.10.4. It is submitted that 9 receptors need to be considered on a cumulative basis and noise emissions at all of the identified receptors from all wind farms operating simultaneously are predicted to be below 40dB. In the context of the scale of the wind farm, a cumulative noise limit of 40dB at low background noise levels is submitted as being justified. The existing environment is described in Section 8.2 of the EIAR and notes that the nearest noise sensitive locations could potentially be impacted by either the proposed development or cumulatively with other wind developments.
- 8.10.5. The Draft Guidelines, at Section 5.7.16, deals with construction and decommissioning noise control. Technical Appendix 2 of the draft Guidelines deal with the treatment of noise in the Planning Process for Wind Energy Developments and part 3 deals with Construction and Decommissioning Noise Control. The Guidelines refer to Annex E of BS 5228-1:2009 + A1:2014, Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1 (BS 5228) in the context of the control of noise during the construction and decommissioning phases.
- 8.10.6. The CoP presents various methods of determining the significance of noise effects due to construction works. Control of noise during the construction and decommissioning of a wind energy development uses the ABC method, where the measured ambient noise level is rounded to the nearest 5 dB for the appropriate period (night, evening/ weekends or day). This is then compared with the estimated construction noise level. If the construction noise level exceeds the appropriate category value, then there is potential for a significant effect to occur. The values in Category A, B and C are the threshold values to be used to determine the potential for significance at a noise sensitive receptor, based on ambient noise levels rounded to the nearest 5 dB. A receptor is categorised by comparing its rounded ambient noise level with the values assigned to Category A for the relevant time period and,

is then categorised depending on whether the rounded ambient noise levels are less than, equal to, or higher than the values in Category A column, respectively. For example, if the rounded daytime ambient noise level is below 65 dB(A), then it is a Category A receptor and the threshold for potential significance is 65 dB(A).

- 8.10.7. During the construction phase, noise impacts may arise from construction activities such as site preparation and construction of the turbine foundations, roads, cable trenches, watercourse crossings and substation. There will also be increased construction vehicular movement and it is noted that the construction of the internal roads will include the noisiest plant and machinery. As the development will use the existing road and track infrastructure, the nearest noise sensitive receptor to the proposed new internal road construction area is approximately 1km.
- 8.10.8. The impact assessment undertaken assumes the worst-case scenario with all plant and machinery operational at the same time. The assessment concludes that the predicted noise level at the nearest noise sensitive location during roads construction will be 51dB. The EIAR submits that this level is well below the 65dB threshold indicated in the Code of Practice as detailed above.
- 8.10.9. In terms of the borrow pit construction, the development is to be served by 3 new borrow pits and 1 permitted borrow pit. The nearest noise sensitive receptor is located approximately 3km from the borrow pit near T20 and the worst case predicted noise level at this receptor during borrow pit excavation is 49dB. The cumulative impact of both road construction and borrow pit excavation is predicted to be 53dB, which is below the stated thresholds. If blasting is required on the site, a Blast Management Plan will be prepared by the contractor in consultation with Galway County Council. In terms of the construction of the substation, no extraordinary sources of noise are anticipated. With regard to the grid connection cable routes, it is noted that the cables will be located underground within excavated trenches.
- 8.10.10. With regard to the operational phase, the EIAR, at section 8.3.2.2, sets out that the proposed noise limit of 35dB $L_{A90, 10min}$ will apply for the GWP Phase 3 turbines. This is the lowest possible noise limit and is considered to protect the amenity of nearby receptors. In terms of cumulative impact, the noise limit criteria are set out in Table 8-8 of the EIAR. Noise predictions were undertaken using noise

prediction software to quantify the impact of the proposed development as a standalone development and cumulatively. In order to address a margin of uncertainty with the measurement of wind turbine noise, a factor of +2dB has been added to the wind turbine noise emissions for the purposes of this assessment. In addition, the turbine selected for modelling is the Siemens 130 and the modelling used 3 different hub heights from 74.5m to 89.5m.

8.10.11. The EIAR includes details of the permitted Knockranny Wind Farm and Ardderroo Wind Farm in terms of the sound power levels of the turbines. Tables 8-15 and 8-16 of the EIAR details the predicted noise emissions at the sensitive receptors and sets out the predicted cumulative noise levels, as a result of the turbines operating either as a standalone project or cumulatively, at the nearest receptor, suggest that the limits are not exceeded for day or night.

8.10.12. In terms of the substation, chapter 8 of the EIAR suggests that a new substation is to be constructed beside the existing Knockranny substation. Once operational, there will be no noise emissions. There will be no sources of vibration from the operation of the proposed substation. With regard to the substation, the Board will note that the decision in relation to the substation and connection to the national grid has not been finalised by the applicant. Two options have been presented in support of this planning application in terms of the EIAR and AA, but a final decision will require the submission of a further application for consent.

Mitigation Measures

8.10.13. In terms of mitigation measures, the EIAR submits that should blasting be required, a site-specific Blast Management Plan will be developed for approval by Galway County Council prior to any blasting taking place. The development will also be subject to a Construction and Environmental Management Plan. No mitigation measures are proposed for the operational phase of the development. Post construction, operational monitoring will be carried out to ensure compliance with relevant noise limit criteria.

Residual Impacts

8.10.14. No residual impacts are identified.

Conclusion

8.10.15. Having regard to the information available and based on the analysis undertaken, I am generally satisfied that the proposed development will not have a significant adverse impact on residential properties arising from noise. I am further satisfied that the information submitted in the EIAR is acceptable. I have further considered the submissions made with regard to the proposed development and I am satisfied that the impacts identified can be avoided, managed or mitigated by measures identified as part of the project and through appropriate conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of noise and vibration. I am further satisfied that issues of cumulative effect are unlikely to arise.

8.11. Landscape

8.11.1. Chapter 9 of the EIAR deals with landscape. The development site is characteristic of the 'Mountain Moorland' landscape type as identified in the Wind Energy Development Guidelines (2006). The Guidelines note that larger wind energy developments can generally be accommodated because they correspond in terms of scale in the typical extensive areas of continuous unenclosed ground. All spacing and layout options are usually acceptable, however random layouts are best for hills as the open expanse of these landscapes can absorb a number of wind energy developments. There are generally no height restrictions. The proposed scheme is in accordance with these recommendations as it is situated on a hillside within an undulating area of hills that is characterised by a mix of land uses.

8.11.2. In terms of local policy, the subject site is located within the Landscape Character Area 10 – East Connemara Mountains and in an area, which is considered to be of High Landscape Value and High Sensitivity. The Galway Wind Energy Strategy, Chapter 4, sets out the strategic guidance in terms of the capacity of the different landscape character areas in County Galway as they relate to wind energy developments. The LCAs relate to the Galway County Landscape Character Assessment which was published in 2002.

8.11.3. Table WE10 of the WES indicates that LCA 10 has an overall low to moderate sensitivity and notes that "*this large-scale landscape is less sensitive to wind energy*

development". Table WE7 states that LCA10 is appropriate for a large wind farm (defined as 11-25 turbines) in 'Strategic Areas' and medium developments (6-10 turbines) in areas 'Acceptable in Principle' and 'Open for Consideration'. LCA10 is also the only LCA containing any Strategic Area and also contains 75% of the 'Acceptable in Principle' Area, clearly identifying this LCA as an area in which wind farm development is to be concentrated. The current County Development Plan includes the same basic landscape characterisation and sensitivity ratings. The EIAR, Section 9.2.2.1 sets out the areas or features of amenity or recreational importance in the surrounding landscape, while Section 9.2.3 deals with the sensitivity of the landscape.

- 8.11.4. In terms of likely significant impacts, the EIAR considers the landscape and visual impacts associated with the proposed development. A detailed methodology is included in the EIAR. The Zones of Theoretical Visibility were prepared over a distance of 25km and are based on a bare ground scenario, representing a worst-case scenario. The photomontages and wire frame models are indicated as depicting realistic images of GWP Phase 3 turbines, along with existing and permitted windfarms in the study area. I am generally satisfied that the submitted details reasonably represent the proposed development in the context of impacts on the landscape. Due to the remoteness of the site, the emphasis was on long-range views from key areas in the landscape.
- 8.11.5. Table 9.10 of the EIAR sets out a summary of change in effects on selected viewpoints in terms of sensitivity to change, magnitude of change proposed and the significance of impact on the selected viewpoints. Overall, the magnitude of change is considered to be negligible with the significance of the impact minor-negligible, neutral and long-term. In terms of effects on key and scenic routes, focal points and views, while a number of the visual receptors are considered to be medium-high to high in terms of sensitivity to change, the magnitude of the change is deemed to be negligible and the significance of the impact minor – negligible, neutral, long-term. In terms of the proposed substation, the impacts are considered to be negligible. Cumulative effects are not considered to be significant in terms of landscape or visual impacts

Mitigation Measures

8.11.6. Wind farm developments by their nature, are highly visible which cannot be easily screened as their very function depends on them being located on exposed sites. In terms of mitigation, the EIAR submits that measures were considered at the initial design stage of the project with regard to siting, design, including colour and layout, as well as the use of existing access roads. No additional mitigation measures are proposed.

Residual Impacts

8.11.7. Residual impacts are considered to be minor – negligible, neutral, and long term as they relate to the landscape and visual effects. No significant cumulative effects are identified.

Conclusion

8.11.8. Having regard to the strategic designation of the site in the Co. Galway WES, where such wind energy developments are acceptable in principle and / or open for consideration. The Board will also note the presence of other large-scale wind energy developments in the wider area and while I note the third-party submissions, I accept that the landscape character of the wider area has been significantly modified. I would accept that the proposed development, if permitted will represent an increased effect on the local area but in the context of the wider area, the extent of impacts is limited and would not dominate the character of the landscape. I am further satisfied that the development can be considered acceptable in terms of impacts on specific vantage points as represented in the submitted visual impact assessment photomontages. No significant adverse landscape or visual impacts are anticipated. I am satisfied that the area has adequate capacity to absorb the proposed development.

8.11.9. Having regard to all the information and submissions in relation to landscape and visual impact, I am satisfied that the EIAR has adequately addressed the issue of landscape and visual impact and that potential impacts would be avoided, managed and mitigated by measures which form part of the proposed scheme, the proposed mitigation measures and through appropriate conditions.

8.12. Cultural Heritage

- 8.12.1. Chapter 10 of the EIAR deals with cultural heritage. This chapter of the EIAR includes a non-technical summary and the assessment includes desk-based research and site inspections. The desk-based research included a review of maps, photographic sources, including ariel photography as well as other documentary sources.
- 8.12.2. The EIAR notes that there are no recorded archaeological monuments or artefacts within the limits of the study area. With regard to the proposed replanting lands in Cloonfower, the nature of the two northernmost fields are described as displaying a moderate potential for preserving the subsurface remains of *fulachta fiadha* or burnt spreads. In the wider cultural heritage context, the desk-based research noted 3 lime kilns, a number of 19th century farm structures / buildings / cottage, trackway and a well within the limits of the replanting lands. However, the field survey revealed that apart from a few amorphous scatters of stone, none of the 19th century cultural heritage features survive above ground. No protected structures, or associated curtilages within or abutting the proposed cable routes, A and B, the permitted Ardderroo Substations, the proposed substation at Letter, the location of the 9 turbines the subject of this appeal or the proposed borrow pit sites.
- 8.12.3. In terms of likely significant impact on known recorded and unknown potential archaeology and wider cultural heritage, the EIAR predicts two moderate cultural impacts occurring by the proposed forestry and planting at Cloonfower. These impacts relate to the likelihood of underground remains of possible Bronze Age burnt mounds (*fulachta fiadha*) or burnt spreads which could be impacted by proposed planting. In addition, the replanting of fields in Cloonfower possibly contain the remains of several destroyed 19th Century structures. No impacts are anticipated during the operational phase of the project.

Mitigation Measures

- 8.12.4. Mitigation is proposed in the form of archaeological monitoring to be undertaken under licence, of the site during planting / construction phase. The remains of the vernacular cottage close to the proposed new substation at Letter will be temporarily fenced off for the duration of the construction works to avoid any accidental impacts. On completion of the development, a report on the results of monitoring will be

submitted to the National Parks and Monuments Service and the relevant County Councils.

Residual Impacts

- 8.12.5. No significant cumulative impacts are considered to arise in terms of cultural heritage and no archaeological or wider cultural heritage residual impacts are anticipated.

Conclusion

- 8.12.6. I am generally satisfied that the conclusions of the EIAR in terms of impacts on cultural heritage and archaeology are acceptable. I also note that the Department of Culture, Heritage & the Gaeltacht have recommended that a condition should be included in relation to archaeological monitoring, in the event of a grant of planning permission. I am satisfied, subject to archaeological monitoring during the construction phase, that the development would not have any significant adverse archaeological impacts and no significant residual impacts are likely to arise.
- 8.12.7. I have considered all of the written submission made in relation to Cultural Heritage and I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions.

8.13. Shadow Flicker

- 8.13.1. Chapter 11 of the EIAR deals with Shadow Flicker. The Wind Energy Development Guidelines note that shadow flicker effects last for a short period and happen only in certain combined circumstances i.e. when the sun is shining and is at a low angle (after dawn and before sunset), the turbine is directly between the sun and the affected property and there is enough wind energy to ensure the turbine blades are moving. The guidelines recommend that shadow flicker at neighbouring dwellings within 500m should not exceed 30 hours per year or 30 minutes per day. The EIAR notes that there are no occupied houses within 1km of the proposed turbines, with the closest house at 1.2km. The scope of the assessment extends to over 10 rotor diameters, 1.38km. Therefore, there is 1 occupied house within the assessment area.

8.13.2. Shadow flicker was calculated for the proposed wind turbines using industry-standard simulation software *WindFarm*. The model uses OSI digital height data as its only topographical reference and simulations are run on a 'bare earth scenario' and does not consider any obscuring features. This results in a worst-case scenario in reporting shadow flicker results. The model also assumes that

- (i) the sun is always shining
- (ii) the wind will blow continuously, and the turbine will always be rotating
- (iii) the wind will always be blowing from a direction such that the turbine rotor is aligned with the sun-receptor line
- (iv) there will be no screening.

8.13.3. The theoretical maximum shadow flicker as predicted by *WindFarm* has been multiplied by 0.29 (29%) to evaluate potential impacts in order to reflect Ireland's climate. Table 11-3 of the EIA sets out the worst case and realistic scenario in terms of the predicted shadow flicker impacts. At H1, the closest house to the site, the assessment results, in the worst case scenario, indicate that the house may experience shadow flicker for a maximum of 0.16 hours on 28 days of the year, with a total number of 3.1 hours per year. The realistic scenario suggests that the total hours per year will be 0.89 hours per year. No other building of the 5 assessed will be affected by shadow flicker in either the worst case or the realistic scenarios. It is also noted that H1 is an unoccupied house.

8.13.4. In terms of cumulative impacts, the model shows that in combination with the existing turbines operating in the Galway Wind Park, shadow flicker thresholds will be exceeded at houses H1 and H2, and notably in the north and east windows. Table 11-4 sets out the results for the proposed development and the existing turbines operating in GWP. The theoretical worst-case scenario predicts approximately 44.5 hours flicker for House 1 per year over 78 days. For house H2 the total hours of shadow flicker per year is approximately 32.6 hours over 75 days per year. The maximum hours of theoretical shadow flicker ranges between 0.49 – 0.75 hours per day. These figures suggest that house H1 exceeds the 30 minute per day threshold value. The realistic scenario estimate that that to total hours of potential shadow flicker at H1 is 12.9 hours and at H2 9.5 hours.

Mitigation Measures

8.13.5. The EIAR, Section 11.4 submits that if appropriate mitigation strategies are employed to the dwellings where shadow flicker is likely to exceed threshold limit values, the offending turbines can be programmed to shut down during periods where shadow flicker is predicted to occur. Based on the information presented, I am satisfied that shadow flicker will not result in an unacceptable negative effect to either H1 or H2, or any other property.

Residual Impacts

8.13.6. Once mitigation is implemented, it is not anticipated that significant cumulative impacts will arise in terms of shadow flicker. No residual impacts are anticipated.

Conclusion

8.13.7. I am generally satisfied that the conclusions of the EIAR in terms of impacts of shadow flicker on the 2 identified properties are acceptable. I am satisfied, subject to the inclusion of appropriate conditions relating to shadow flicker mitigation, that the development would not have any significant adverse impacts and no significant residual impacts are likely to arise.

8.14. Material assets

8.14.1. Chapter 12 of the EIAR deals with Material Assets. The description of Material Assets in the EPA Guidelines, 2002, include architectural, archaeological, and cultural heritage, designed landscapes, natural resources of economic value, buildings and structures and infrastructure. Having regard to the format of the EIAR submitted, these aspects of the environment are covered under a number of chapters as follows:

Chapter 5: Land and Soils

Chapter 6: Water

Chapter 9: Landscape

Chapter 10: Cultural Heritage

Chapter 12 of the EIAR deals with material asset relevant to the wind farm project under a number of topics.

- 8.14.2. **Wind resource and other wind farms:** The predicted average speeds at 100m are approximately 8-9m/s and are considered to be very good for wind farm development. The proposed increase in the dimensions of the turbines will increase the renewable energy output.
- It is not anticipated that the wind resource will be adversely affected by the operation of the proposed turbines and no residual impacts are envisaged. No mitigation is therefore required.
- 8.14.3. **Grid Capacity and electricity supply:** The turbines the subject of this application were not constructed as part of the first phases of the Galway Wind Park as they had the lowest relative predicted power export forecast due to the relatively lower elevations of the turbines. In terms of connection to the grid, the EIAR sets out two options for the connection points.
- 8.14.4. There are two circuits connected to the Knockranny Wind Farm, a 110kV underground cable to Galway Substation and a 110kV OHL to Salthill substation. The combined capacity of these circuits is 338MW, but there is a network constraint at Galway. Once the constraints are removed in 2024, there will be capacity for at least 296MW of Gate 3 projects and a further 42MW under a Special Protection Scheme.
- 8.14.5. In terms of impacts, it is submitted that once connected to the national grid, the operation of the turbines will have a positive impact on the electricity supply as it will be exporting additional renewable energy. It is anticipated that there will be sufficient grid capacity at the Knockranny Substation, new Substation, or proposed Ardderroo Substation. In the event that capacity is not available, two alternative connection points have been environmentally assessed as part of this EIAR. In terms of residual impacts, it is considered that the provision of additional renewable energy to the grid is a positive impact. No mitigation is therefore required.
- 8.14.6. **Access road capacity and traffic:** The access to the proposed development site is over the national secondary route, N59 and local road, the L-54534 which connects the N59 through Doon East to the site for a distance of approximately 0.7km. Once off the public roads, a network of forestry and wind farm roads provide access to the vicinity of the proposed turbine sites. The junction of the N59 and the L-54534 at Doon East has been upgraded to accommodate the delivery of wind farm

components, including turbines, as part of the wider Galway Wind Park development, in which the subject site lies. The Board will note that the primary issues raised by third parties relate to the use of the L-54534 for the delivery of turbine components and the significant impacts which have been experienced by local residents as a result.

- 8.14.7. In terms of the capacity of the existing roads, the EIAR has regard to previous traffic surveys and the existing traffic counters on the N59. The recorded TII traffic counter, located at Knockauranny less than 1km to the south east of the Doon junction on the N59, in 2017 recorded 7,406 vehicles with 2.5% HGV content. The Design Manual for Roads and Bridges document, 'Rural Road Link Design DN-GEO-03031 (June 2017) was used to establish the estimated capacity of the proposed haulage route for the proposed delivery of the turbines. The capacity for the N59, which is a Type 2 single (7.0m) Carriageway is 8,600 AADT (vehicles).
- 8.14.8. For the local roads, the smallest type road provided for in the document is Type 3 Single (6.0m) Carriageway with an estimated capacity of 5,000 AADT. The local road L-54534 was originally 3.5m in width and was widened to 5m to facilitate the construction of the Galway Wind Park. Applying the appropriate ratio, it is estimated that the capacity of the road is 4,700 AADT. In terms of assessing the capacity of the road, a 50% reduction has been applied to reflect the bends and pinch points located on the road. This gives an estimated capacity of 2,350 AADT for the L-54534.
- 8.14.9. Table 2 of section 12 of the EIAR sets out the estimated link capacity of the roads and notes that the N59 operates at 86.9% capacity while the L-54534 operates at 22.6% capacity.
- 8.14.10. In terms of impacts during the construction phase, the Board will note that the EIAR has considered that the construction is assumed to be in 2029, on the basis that a 10-year permission is being sought. During the construction phase, approximately 50 staff will be present on the site, with 2 persons per car, and therefore generating a maximum of 50 two-way traffic movements per day. The concrete pour for each turbine foundation will take 1 day to complete and the delivery of the turbines will require eight truck loads each, totalling 72 loads over a five-week period. Crane mobilisation and demobilisation will involve 20 loads each over a two-day period at the start and end of the turbine delivery and erection phase.

It is concluded that the maximum daily traffic during construction of the wind farm will occur during the concrete delivery and foundation pours with a total of 200 construction related traffic movements per day.

8.14.11. In terms of the grid connection, 22 one-way HGV traffic movements would be generated, averaging 2 HGV movements per day. Staff generated traffic movements during this phase, and for both grid connection route options, is estimated to be 20 per day.

8.14.12. In terms of the predicted 2029 traffic volumes with peak construction traffic, it is estimated that the total number of vehicles on the N59 will rise to 8,479, with 444 HGV movements, and on the L-54534 will rise to 854, with 230 HGV movements. In terms of capacity of the roads with peak construction traffic, the figures rise to 98.6% and 36.3% for the N59 and the L-54534, respectively. These figures result in an estimated total increase of 3.3% and 46% for the two roads during the construction phase of the development. It is noted that the increase on the local road, and maximum HGV movements, would occur on nine days – 1 per week for 9 weeks. The EIAR concludes that there is adequate capacity for the peak construction phase of the development and that the impact of the increased traffic would be temporary.

8.14.13. During the operational phase of the windfarm, maintenance is expected to be low and the significance of impact is considered to be imperceptible to slight.

8.14.14. In terms of mitigation, the EIAR sets out recommended measures to ensure a safe and regulated traffic management system is enforced. In response to the further information request by the Planning Authority, the applicant submitted a Traffic Management Plan which will incorporate all of the mitigation measures set out as part of the construction phase CEMP. Details will include information in relation to the delivery programme, mitigation for dirt nuisance on the public roads during wet weather and dust during dry weather including the installation of a proprietary wheel wash facility and the use of a road sweeper on a full time basis for the duration of the importation of aggregates and concrete. A water bowser will also be employed to spray the local roads during the risk of dust nuisance.

8.14.15. While I acknowledge the very valid and real concerns of third parties in relation to the roads' issues, I note that the Roads Directorate of Galway County Council recommended the inclusion of 3 conditions in any grant of planning

permission. I also note that TII raised concerns in relation to the structural capacity of the haul route to accommodate the proposed loading associated with the delivery of the turbines. Following the submission of the response to the FI request, the TII submitted a further report. This report notes that the response addresses items included in the TIIs initial observation.

8.14.16. I note that the haul route identified is one which has been used for the development of the wider Galway Wind Park development and that a number of modifications and improvements have already been made to confirm that abnormal loads can be accommodated on the local roads. I would accept that the construction phase will give rise to additional traffic and of note, abnormal loads on the local roads. This will undoubtedly have an impact on local residents as described in the third-party submissions. These impacts and inconvenience, however, will be in the short term and temporary in nature. No residual impacts are envisaged as arising.

8.14.17. The potential for cumulative impacts in terms of roads and traffic has not been clearly dealt with in the submitted EIAR. However, I would accept that the issue does not arise if the development is carefully phased to avoid coinciding with the construction of other wind energy development. Such phasing can be addressed in the Traffic Management Plan.

8.14.18. I am generally satisfied that the proposed development will not give rise to significant long term or permanent adverse impacts. I am further satisfied that the measures regarding structural assessments of the delivery route or improvements to the junction of the N59 and the L-54534 can be dealt with in a Construction Traffic Management Plan. This can be dealt with by way of appropriate condition.

8.14.19. **Geological Heritage:** The EIAR notes that geological heritage is documented and protected by the Irish Geological Heritage Programme. This is a partnership between GSI and NPWS who designate and protect appropriate sites which represent Ireland's geological heritage under 16 themes ranging from karst features to hydrogeology.

8.14.20. In terms of impacts on geological heritage, the removal of soil and bedrock, necessary to accommodate the proposed development, is a permanent impact. The impact is not considered significant however, as there will be no loss of geological

heritage due to the development and therefore, no impact on county or statutory geological heritage is envisaged.

8.14.21. No mitigation is required in this regard and no residual impacts remain.

8.14.22. **Forestry:** The subject site lies within an extensive area of conifer plantation which is a commercial forest owned by Coillte. Most of the tree felling has been already undertaken during the development of the Galway Wind Park, with the exception of 8 of the proposed turbine locations. Keyhole felling will be required at T9, T19, T20, T27, T28, T30, T31 and T36 and will minimise the number of trees to be removed. The proposed cable routes will not require any tree felling. Some felling will be required if the permitted Cloosh Substation is relocated if connection point B is selected. Overall, however, the forestry loss is not considered to be significant relative to the area of the forestry resource nationally, regionally, and locally. The proposed development provides for replanting and therefore, there will be no net loss of forestry area.

8.14.23. **Resource Use and Waste Management:** The proposed development will use a number of natural resources for construction including stone, won from on-site borrow pits, ready mix concrete and water for wash down of vehicles and at the site compound. On site materials such as peat, overburden and rock will be excavated and moved but not lost from the site, rather redistributed over the development area.

8.14.24. In terms of impacts, the volume of water required on site will be controlled while the quantities of stone and cement will be typical of a small to medium sized construction project. Waste generated at the site is envisaged to be minimal and will be controlled. No significant impacts on natural resources and assets are anticipated as a result of the proposed development.

8.14.25. Mitigation measures include the segregation of waste at source and all waste streams will be identified within a waste management plan. Wastewater from the temporary compound will be held in an alarmed, twin hulled tank, which will be emptied as required by a permitted contractor. Wash out of concrete trucks will be limited to the chutes and will be undertaken and monitored at a dedicated area. No residual impacts are envisaged.

8.14.26. **Conclusion:** I have read and considered all of the information presented in support of the proposed development, as well as all other written submissions. Of note, the issue of traffic is raised under the topic of Material Assets. The Board will note the concerns of the existing residents of Doon East and the local area in the vicinity of the site as they relate to nuisance and impacts associated with construction traffic. While I wholly acknowledge and accept the issues raised by the third parties, I note the location of the proposed development site, within an area identified in the Galway Wind Energy Strategy as being acceptable in principle for wind energy developments, together with the existing infrastructure in the area.

8.14.27. Notwithstanding the comments submitted in relation to apparent non-compliance with previous planning conditions, I am generally satisfied that the identified potential impacts would be avoided, managed and mitigated by the measures detailed in the EIAR and other documents which form part of the planning application as well as suitable conditions.

8.14.28. I would also note that the impacts which have been identified as arising during the construction phase will be temporary and for a short-term period. I am therefore, satisfied that the development would not have any unacceptable direct, indirect or cumulative effects in terms of material assets.

8.15. Interaction of the Foregoing

8.15.1. Chapter 13 of the EIAR seeks to set out the interactions of the environmental aspects considered in the various chapters of the EIAR. It is noted that the potential for interactions between one aspect of the environment and another can result in direct or indirect impacts, which may be either positive or negative. No major interactions between the predicted impacts on different environmental topics are envisaged. The matrix presented in Figure 13.1 notes that there is potential for minor interactions to occur between the following aspects:

- **Noise and Shadow Flicker and Human Beings:**

It is noted that there is potential for impact on human beings by reason for noise and shadow flicker during the operation of the turbines. The predicted results of the noise assessment indicate that the noise limit criteria already in place for the wider wind energy developments in the area will not be

exceeded.

In addition, while theoretically there is potential for shadow flicker to impact two properties, a realistic assessment, which include consideration of average sunshine hours and the fact that both properties are well screened from the turbines by forestry, shadow flicker is not expected to exceed the threshold values of 30 hours per year or 30 minutes per day.

Mitigation measures are available where necessary.

It is concluded that this is a minor interaction and all guideline limits will be met.

- **Soils and Land and Hydrology:**

Soil, peat and rock will require excavating to accommodate the foundations of the proposed turbines. Such works has the potential to impact on surface water. It is noted that the wind farm will be development in line with the protective measures detailed and the finalised Construction and Environmental Management Plan.

It is further noted that the subject site lies within the already developed GWP and will utilise the existing infrastructure developed as part of previous planning consents.

Subject to good site practice and the management of drainage with check dams, silt traps and settlement ponds will mitigate the potential impacts to surface water.

It is concluded that this is a minor interaction.

8.15.2. The conclusions regarding the acceptability of the likely cumulative and main residual effects of this proposal are identified and assessed under the various headings of the main assessment above. I am generally satisfied that the significant environmental effects arising as a consequence of the development, including the residual and cumulative impacts have been identified. Having regard to the nature of the proposed development, mitigation measures, or as a consequence of proposed conditions, I do not foresee any likelihood of any of these interrelationships giving rise to significant effects on the environment.

8.16. Reasoned Conclusion on Significant Effects

Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the applicant, and the submission from the Planning Authority, prescribed bodies and observers in the course of the application and appeal, it is considered that the main significant direct and indirect effects of the proposed development on the environment are, and would be mitigated, as follows:

- **Population and human health:**

There are potential for impacts in terms of roads and traffic issues as well as dust and noise arising from the construction phase of the development affecting air quality and residential amenity. These impacts are considered to be temporary and short term. Mitigation measures are proposed.

There will be a minor positive impact on population with regard to the creation of a number of jobs.

Shadow flicker during the operational phase of the development has the potential to impact 2 properties. Mitigation measures are proposed.

- In terms of **biodiversity**, the development will give rise to the loss of conifer plantation habitat at local level in the areas of the proposed turbines. Much of the infrastructure required to provide the project is already in place. There will be temporary disturbance to fauna, including birds during the construction phase while the operational phase will give rise to potential collision risk to certain bird species.

There is potential for impacts to aquatic habitats and species by reason of impacts to water quality during the construction phase and early operational phase. Mitigation measures have been addressed during the design of the project while additional measures are detailed in the EIAR. Measures include the implementation of a Construction and Environmental Management Plan as well as the appointing of an Environmental Manager / Ecological Clerk of Works during the construction phase of the development. Post construction monitoring will continue in line with the planning consents for the wider Galway Wind Park.

- Effects on the receiving **land, soil and geology** environments may arise during the construction and operational phases. Potential impacts include the temporary loss of commercial forestry land in the medium term, permanent removal of peat, subsoil and bedrock at excavation locations, potential peat instability and slope failure, the impact of excavations including increased erosion and sediment release, storage and management of excavated material and construction works associated with the turbines, roads, borrow pits, substation and cable trenches. The EIAR sets out the mitigation measures proposed to avoid or reduce the potential impact of the development. The mitigation by management measures follow the thrust of those existing measures which operate within the wider Galway Wind Park and detailed design best practices will be implemented as part of the Construction and Environmental Management Plan. Mitigation measures relate to slope failure, management of excavations and excavated materials, cable trenches and management of vehicular movements within the site.
- In terms of the **water** environment, potential indirect effects could arise due to an increase in runoff into receiving watercourses from sediment and soil erosion. In terms of mitigation, a robust drainage system is to be put in place to control runoff and manage sediment transport during the construction phase. Dedicated settlement ponds will be provided and during the pouring of concrete, effective containment measures will be implemented to avoid spills and to prevent concrete from entering into the drainage system. The CEMP will include a fuel management plan and all vehicle movements will be restricted to the areas of hard standing and existing / newly constructed access tracks.
- In terms of **air quality & roads**, dust levels arising from the traffic associated with the construction phase of the development is likely to have a temporary short-term impact on local residents on the haul route. The nature of the vehicles transporting the turbine components will also have a temporary and short-term impact on residents using the local road network. Mitigation measures include the use of a water bowser to spray tracks and crane hard standings, inspections of public roads, control of traffic speed, stockpiling of materials and regular maintenance of plant and equipment. A

Traffic Management Plan will be implemented to minimise congestion. Once operational, no significant negative residual impacts are envisaged in terms of the air and climate, once operational. The operation of the wind farm will displace CO₂ emissions.

- In terms of **noise** and **vibration**, during the construction phase, noise impacts may arise from construction activities such as site preparation and construction of the turbine foundations, roads, cable trenches, watercourse crossings and substation. There will also be increased construction vehicular movement in the wider area and on the local road network. The predicted noise levels at the nearest noise sensitive receptor will be well below the relevant 65dB threshold during the construction phase. During the operational phase, the cumulative noise limits are not anticipated to be exceeded for day or night and the substation, once constructed will not give rise to noise or vibration. Mitigation measures are proposed as part of the CEMP.
- In terms of **Visual and Landscape Impacts**, the proposed development will, if permitted, be located within an existing wind farm development area. Given the topography of the site, and notwithstanding the fact that the proposed turbines are 15.5m higher than the existing operational turbines, they will not protrude above the existing turbines. Mitigation measures were considered as part of the design of the project and no additional measures are proposed. The site is located within a landscape character area which has the capacity to absorb a development of this scale in landscape and visual terms.

In conclusion, having regard to the above identified significant effects, I am satisfied that the proposed project, subject to the implementation of mitigation measures as described in the EIAR, would not have any unacceptable direct or indirect impacts on the environment.

9.0 **Appropriate Assessment**

9.1. **Introduction:**

- 9.1.1. The EU Habitats Directive 92/43/EEC provides legal protection for habitats and species of European importance through the establishment of a network of designated conservation areas collectively referred to as Natura 2000 (or 'European') sites.
- 9.1.2. Under Article 6(3) of the Habitats Directive, an Appropriate Assessment must be undertaken for any plan or programme not directly connected with or necessary to the management of a European site but likely to have a significant effect on the site in view of its conservation objectives. The proposed development is not directly connected with or necessary to the management of a European site. The Board will note that a Natura Impact Statement (NIS) was submitted as part of documentation for permission for the proposed development to assess the likely or possible significant effects, if any, arising from the proposed development on any European site.
- 9.1.3. In accordance with these requirements the Board, as the competent authority, prior to granting a consent must be satisfied that the proposal individually or in combination with other plans or projects, is either not likely to have a significant effect on any European Site or adversely affect the integrity of such a site, in view of the site(s) conservation objectives.
- 9.1.4. Guidance on Appropriate Assessment is provided by the EU and the NPWS in the following documents:
- Assessment of plans and projects significantly affecting Natura 2000 sites – methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC, 2001).
 - Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (DoEHLG), 2009.

Both documents provide guidance on Screening for Appropriate Assessment and the process of Appropriate Assessment itself.

9.2. Natura Impact Statement

9.2.1. The application was accompanied by a Natura Impact Statement (NIS, dated September 2019) which scientifically examined the potential impacts of the proposed development on the following European Sites:

- Connemara Bog Complex SAC (Site Code: 002034)
- Connemara Bog Complex SPA (Site Code: 004181)
- Lough Corrib SAC (Site Code: 000297)
- Lough Corrib SPA (Site Code: 004042)
- Inner Galway Bay Complex SPA (Site Code: 004031)

9.2.2. The Board will note that the Planning Authority raised a number of concerns in terms of the content of the NIS as there is a reliance on a number of reports to be carried out prior to commencement of development. The PA was not confident that adverse effects on the integrity of the Natura 2000 sites could be ruled out. The further information request required that an updated NIS be submitted which included the following reports:

- Construction Environmental Management Plan
- Avian surveys
- Fuel Management Plan
- Storage and disposal of wastewater arising on the site
- Invasive Species Management Report
- Peat Stability Survey

The applicant submitted a response to Galway County Council's further information request on the 3rd day of March 2020. This response included an updated NIS. The response to the further information request was not re-advertised. Having reviewed the submission, I am satisfied that the response to the further information request did not present significant additional data and therefore, there was / is no requirement to give additional notice under Article 35 of the Planning and Development Regulations 2001, as amended.

9.2.3. The NIS identifies the relevant Natura 2000 sites that have the potential to be affected by the proposed development, presents a description of the proposed development and identifies other projects or plans or activities in the vicinity. The NIS outlines the assessment methodology employed to identify and assess the potential impacts on habitats and species identified as qualifying interests of a number of European Sites and their conservation objectives, including cumulative / in-combination impacts. The NIS sets out mitigation measures and addresses potential residual impacts on the European sites.

9.2.4. Having reviewed the revised NIS and the supporting documentation, I am satisfied that it provides adequate information in respect of the baseline conditions, clearly identifies the potential impacts, and uses best scientific information and knowledge. Details of mitigation measures are summarised in Section 8 of the revised NIS. The NIS concludes that, provided the mitigation measures are implemented in full, it is considered that the proposal will not adversely affect the integrity of any of the European Sites considered in the report including:

- Connemara Bog Complex SAC (Site Code: 002034)
- Connemara Bog Complex SPA (Site Code: 004181)
- Lough Corrib SAC (Site Code: 000297)
- Lough Corrib SPA (Site Code: 004042)
- Inner Galway Bay Complex SPA (Site Code: 004031)

I am satisfied that the information is sufficient to allow for Appropriate Assessment of the proposed development.

9.3. **Consultations and Observations**

In the course of the assessment of the proposed development, the following consultations and third-party submissions were considered as they relate to AA:

9.3.1. **Council departments:**

The **Environment Section** of Galway County Council raised concerns in relation to the potential effects of the proposed development on the watercourses within and downstream of the proposed site. The report includes, as an appendix, the report

from Inland Fisheries Ireland which was submitted to An Bord Pleanala in relation to ABP ref 303086-18. It is considered that their recommendations would be relevant to the current application. If permission is granted, it is recommended that the conditions be applied in addition to the conditions recommended by IFI.

9.3.2. **Third Party Submissions:**

A number of third-party submissions were made to the Planning Authority in the course of its assessment of the proposed development. These submissions are summarised above in Section 3.2.4 of this report. In terms of concerns raised in relation to nature conservation and environment, the following is relevant:

- Dirt and dust from traffic has not been managed in the past.
- Environmental impacts in terms of frogs, heron, bogland grasses and grass birds.
- Flooding issues due to altered water flow.
- Impact of felling on the water quality should be considered as part of an Appropriate Assessment.
- There are 2 White Tailed Eagles nesting in Seecon which will be killed if larger turbines are permitted.
- Planning documents submitted are incomplete and contain inaccuracies, errors and omissions that compromise the PAs ability to determine the planning regulations, assessments, licences and consents that are legally required in order to allow the application to be considered.
- Data and planning policies relied upon by the applicant appear to be outdated.
- Lack of consultation with statutory consultees.
- The application does not reflect the 'Precautionary Principle'.

With regard to third party submissions made to An Bord Pleanala, the following is relevant:

- The Environmental Impact Assessment and the Appropriate Assessment purportedly carried out by the Planning Authority do not comply with EU law as defined by the CJEU.

All of the observations, submissions, appeal submissions and technical reports from departments of Galway County Council and prescribed bodies are considered as part of this appropriate assessment.

9.4. Screening for Appropriate Assessment:

- 9.4.1. The Board should note that the table of contents outlined in the updated NIS presents incorrect chapter numbers. The Introduction is indicated as '2' in the table of content but is numbered '1' in the body of the text. In my references below, I propose to use the section numbers as per the body of the NIS, rather than the table of contents.
- 9.4.2. Section 3.1 of the NIS presents the Identification of Natura 2000 sites and sets out the screening for AA. The purpose of AA screening, is to determine whether appropriate assessment is necessary by examining:
- a) whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of the site, and
 - b) the likely effects of a project or plan, either alone or in combination with other projects or plans, on a Natura 2000 site in view of its conservation objectives and considering whether these effects will be significant.
- 9.4.3. The Screening Report, submitted as Appendix G of Volume 3 of the EIAR, considered Natura 2000 sites within 15km, the likely zone of impact, of the subject site. The Board will note that the Screening Report also considered the likely zone of impact associated with the proposed replanting lands, where the developer proposes to replant felled trees within the Galway Wind Park to accommodate the development, in Co. Roscommon. The area associated with felling of trees to accommodate the development is indicated at 26.2ha while the replanting site in Roscommon is stated as having an area of 6.7ha. 24 European sites considered within the Stage 1 Screening include 11 (7 SACs and 4 SPAs) in relation to the site of the proposed turbines and grid connection, and 13 (11 SACs and 2 SPAs) in the vicinity of the proposed replanting area in Roscommon.
- 9.4.4. The Screening Report also notes that there is on-going planning compliance ecological monitoring associated with the four windfarms in the vicinity, Cloosh, Seecon, Uggool and Lettercraffroe. The monitoring requirements for these

windfarms has been consolidated and incorporated into a series of construction phase management plans and post construction monitoring programmes for the entire Galway Wind Park. The proposed development area is included in the monitoring area and includes

- Avian Monitoring Programme for Galway Wind Park
- Overall Water Quality Monitoring Programme for Galway Wind Park.

It is noted that the EIAR and NIS have been informed by the above and other surveys including habitat, mammal, bat, Marsh Fritillary and water quality surveys and assessments.

9.4.5. Table 1 of the AA Screening Report identifies 24 Natura 2000 sites within 15km of the subject site, including the proposed replanting site in Co. Roscommon. Lough Corrib SAC (Site Code: 000297) affects both locations. Table 2 of the AA Screening Report presents the full list of the sites and the qualifying features of conservation interest for which the site is designated. Each site was examined in the context of location in terms of the zone of Influence of effect from the proposed development and the distribution of the qualifying interests and Special Conservation Interests in relation to the Zol.

9.4.6. The AA Screening Report, section 7.2.1, concludes that the following sites can be screened out in the first instance, as they are located outside the zone of significant impact influence because the ecology of the species and / or the habits in question is neither structurally nor functionally linked to the proposal site. There is no potential impact pathway connecting the designated sites to the development site and therefore, it is concluded that no significant impacts on the following sites is reasonably foreseeable. I concur with the applicants' determination in relation to the following 16 Natura 2000 sites:

Site Name	Site Code	Distance to Site	Assessment
Sites within potential impact zone of windfarm / grid connection			
Special Areas of Conservation (SAC)			
Gortnandarragh Limestone Pavement SAC	001271	9.5km to east of T9	No habitat loss arising from the proposed development.

		5.6km NE of Ardderroo Substation	There is no surface water, groundwater or underground features connecting the sites. Screened Out
Kilkieran Bay & Islands SAC	002111	9km west of T9 14km W of proposed Grid connection Options	No habitat loss or alteration arising from the proposed development. There is no surface water, groundwater or underground features connecting the sites. Streams draining the site are not optimal for otter Screened Out
Galway Bay Complex SAC	000268	14.7km to SE of proposed Cable Routes / Grid Connection Options 16.7km SE of closest turbine	No habitat loss arising from the proposed development. There is no surface water, groundwater or underground features connecting the sites. While the Owenboliska ultimately drains to Galway Bay, the distance is over 15km. Significant distance between the sites. Screened Out
Maumturk Mountains SAC	002008	11.8km NW of T9 16.8km MW of proposed Cable Routes / Grid Connection Options	No habitat loss arising from the proposed development. There is no surface water, groundwater or underground features connecting the sites.

			<p>Site situated in different sub-catchment area and is located upslope.</p> <p>Screened Out</p>
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Special Protection Areas (SPA)			
Lough Mask SPA	004062	18.5km north of T9	<p>No habitat loss / alteration arising from the proposed development.</p> <p>No known migration routes of Species of Special Conservation Concern over the site or wider study area.</p> <p>Outside foraging range of wintering Greenland white-fronted goose.</p> <p>Lack of / low number of observation of species protected within this SPA at study area.</p> <p>Screened Out</p>
Special Areas of Conservation (SAC)			
Cloonchambers Bog SAC	000600	5km to south / southeast	<p>No habitat loss arising from proposed replanting.</p> <p>Replanting site does not drain to SAC. SAC is located upstream from site.</p> <p>Significant distance between sites.</p> <p>Screened Out</p>

Errit Lough SAC	000607	5.5km to west / north west	No habitat loss. There is no surface water, groundwater or underground features connecting the sites. Site situated in different sub- catchment area. Screened Out
Derrinea Bog SAC	000604	6.9km to north west	No habitat loss. There is no surface water, groundwater or underground features connecting the sites. Site situated in different sub- catchment area. Screened Out
Corliskea / Trien / Cloonfeliv Bog SAC	002110	7.9km to south east	No habitat loss. SAC upstream of downstream confluence. Site situated in different sub- catchment area. Screened Out
Urlaur Lakes SAC	001571	8.4km to north west	No habitat loss. There is no surface water, groundwater or underground features connecting the sites. Site situated in different sub- catchment area. Screened Out
Bellanagare Bog SAC	000592	8.8km to east	No habitat loss.

			<p>SAC upstream of downstream confluence.</p> <p>No potential for habitat alteration.</p> <p>Screened Out</p>
Coolcam Turlough SAC	000218	11.3km to south / south west	<p>No habitat loss.</p> <p>There is no surface water, groundwater or underground features connecting the sites.</p> <p>Site situated in different sub-catchment area.</p> <p>No potential for habitat alteration.</p> <p>Screened Out</p>
Tullaghanrock Bog SAC	002354	12.8km to north east	<p>No habitat loss.</p> <p>There is no surface water, groundwater or underground features connecting the sites.</p> <p>Site situated in different sub-catchment area.</p> <p>No potential for habitat alteration.</p> <p>Screened Out</p>
Williamstown Turloughs SAC	002296	13.7km to south west	<p>No habitat loss.</p> <p>There is no surface water, groundwater or underground features connecting the sites.</p> <p>Site situated in different sub-catchment area.</p>

			No potential for habitat alteration. Screened Out
Special Protection Areas (SPA)			
Bellanagare Bog SPA	004105	8.8km to east	No habitat loss. SPA upstream of downstream confluence. No potential for habitat alteration. Screened Out
Lough Gara SPA	004048	15km to north east	Site situated in different sub-catchment area. Habitat not optimal for protected species. Screened Out

9.4.7. The Screening for AA report, Section 7.2.2, deals with the designated sites within the zone of potential impact. Of the 24 designated sites identified, 8 are deemed to have potential to be impacted upon by the proposed development as follows:

- Connemara Bog Complex SAC (Site Code: 002034)
- Connemara Bog Complex SPA (Site Code: 004181)
- Drumalough Bog SAC (Site Code: 002338)
- Carrowbehy / Caher SAC (Site Code: 000597)
- Lough Corrib SAC (Site Code: 000297)
- Lough Corrib SPA (Site Code: 004042)
- Ross Lake & Wood SAC (Site Code: 001312)
- Inner Galway Bay Complex SPA (Site Code: 004031)

9.4.8. An 'assessment of significance of potential impacts' on the above sites is presented in Section 7.3 of the AA Screening report. The assessment is presented under a number of headings including habitat loss and alteration, water quality, disturbance

and / or displacement of species, collision, habitat or species fragmentation as well as an assessment on the likelihood of significant cumulative / in-combination effects. The following table summarises the potential significant effects in view of the conservation objectives of those sites.

AA SCREENING: European Sites for which there is a possibility of significant effects				
Site Code	Site name / Distance to site	Habitat Loss / Modification	Water quality and water dependant habitats	Disturbance
002034	<p>Connemara Bog Complex SAC</p> <p>T28 is located at 150m to the west.</p> <p>Approx. 2km to south of proposed Grid connection options.</p>	<p>Yes</p> <p>No habitat loss as the subject site is not located within the SAC.</p> <p>The site occurs within the catchment area for the SAC, and therefore, there is a potential risk of alteration of habitats.</p>	<p>Yes</p> <p>Potential impairment of water quality within watercourses could lead to poor water quality impacts in the SAC.</p>	<p>Yes</p> <p>Potential disturbance or displacement impacts on species of Conservation Interest.</p>
004181	<p>Connemara Bog Complex SPA</p> <p>T30 is located 210m to the NE.</p> <p>3km W of Grid connection options.</p> <p>5.7km W proposed SSE substation</p> <p>7km W of Ardderroo Substation</p>	<p>Yes</p> <p>No habitat loss as the subject site is not located within the SPA.</p> <p>The site occurs within the catchment area for the SPA, and therefore, there is a potential risk of alteration of habitats.</p>	<p>Yes</p> <p>Potential impairment of water quality within watercourses could lead to poor water quality impacts in the SPA.</p>	<p>Yes</p> <p>Potential disturbance or displacement impacts on species of Conservation Interest.</p> <p>There is also potential for bird mortality due to collision impacts</p>

AA SCREENING: European Sites for which there is a possibility of significant effects				
Site Code	Site name / Distance to site	Habitat Loss / Modification	Water quality and water dependant habitats	Disturbance
000297	<p>Lough Corrib SAC</p> <p>2.4km NE of T9</p> <p>3.6km N of Ardderroo Substation</p> <p>13.4km SE of replanting site</p>	<p>Yes</p> <p>No habitat loss as the subject site is not located within the SAC.</p> <p>The site occurs within the catchment area for the SAC, and therefore, there is a potential risk of alteration of habitats.</p>	<p>Yes</p> <p>Potential impairment of water quality within watercourses could lead to poor water quality impacts in the SAC.</p>	<p>Yes</p> <p>Potential disturbance or displacement impacts on species of Conservation Interest.</p> <p>Potential issue of collision risk to Lesser Horseshoe Bat, QI of the SAC.</p>
000297	<p>Lough Corrib SPA</p> <p>2.4km NE of T9</p> <p>3.6km N of Ardderroo Substation</p> <p>13.4km SE of replanting site</p>	<p>Yes</p> <p>No habitat loss as the subject site is not located within the SPA.</p> <p>The site occurs within the catchment area for the SPA, and therefore, there is a potential risk of alteration of habitats.</p>	<p>Yes</p> <p>Potential impairment of water quality within watercourses could lead to poor water quality impacts in the SPA.</p>	<p>Yes</p> <p>Potential disturbance or displacement impacts on species of Conservation Interest.</p> <p>There is also potential for bird mortality due to collision impacts.</p>

AA SCREENING: European Sites for which there is a possibility of significant effects				
Site Code	Site name / Distance to site	Habitat Loss / Modification	Water quality and water dependant habitats	Disturbance
004031	<p>Inner Galway Bay Complex SPA</p> <p>15.8km to SE of proposed Cable Routes / Grid Connection Options</p> <p>17km SE of T36</p>	<p>No</p> <p>No habitat loss as the subject site is not located within the SPA.</p> <p>There is no surface water, groundwater or underground features connecting the sites.</p>	<p>No</p> <p>While the Owenboliska ultimately drains to Galway Bay, the distance is over 15km.</p>	<p>Yes</p> <p>There is potential for significant impacts during the operational phase including displacement and collision impacts on protected species.</p>
001312	<p>Ross Lake & Wood SAC</p> <p>8.5km to east of T19 (7km from site boundary)</p> <p>3.7km to NW of Ardderroo Substation</p>	<p>No</p> <p>No habitat loss as the subject site is not located within the SAC.</p> <p>There is no direct link between the sites by any river / stream so no habitat alteration is envisaged.</p>	<p>No</p> <p>There is no surface water, groundwater or underground features connecting the sites.</p>	<p>No</p> <p>A breeding colony of the Lesser Horseshoe Bat occurs in an out-building beside Ross House within the SAC, approximately 3.7km to the east of the proposed development site with the closest turbine at 8km from the SAC.</p>

AA SCREENING: European Sites for which there is a possibility of significant effects				
Site Code	Site name / Distance to site	Habitat Loss / Modification	Water quality and water dependant habitats	Disturbance
				<p>This is outside the foraging range for the species.</p> <p>No impacts on the Lesser Horseshoe Bat is anticipated</p>
002338	<p>Drumalough Bog Complex SAC</p> <p>360m NW and 500m to East of replanting site in Roscommon</p>	<p>No</p> <p>No habitat loss arising from proposed replanting.</p> <p>Planting works will not result in the significant alteration of the hydrological regime in the boglands extending away from the site.</p> <p>All works will adhere to the requirements of the Forestry Act 2014, Forestry and Water Quality Guidelines DMNR 2000 and Forest Harvesting and Environmental Guidelines 2000.</p>	<p>No</p> <p>It is not considered that the replanting will impact water quality.</p> <p>No river drains through the replanting site and the Cloonflower Stream does not drain through the SAC.</p>	<p>No</p> <p>Significant habitat or species fragmentation impacts are not foreseen.</p>

AA SCREENING: European Sites for which there is a possibility of significant effects				
Site Code	Site name / Distance to site	Habitat Loss / Modification	Water quality and water dependant habitats	Disturbance
000597	<p>Carrowbehy / Caher SAC</p> <p>1.7km to west of replanting site in Roscommon</p>	<p>No</p> <p>No habitat loss arising from proposed replanting.</p> <p>Planting works will not result in the significant alteration of the hydrological regime in the boglands extending away from the site.</p> <p>All works will adhere to the requirements of the Forestry Act 2014, Forestry and Water Quality Guidelines DMNR 2000 and Forest Harvesting and Environmental Guidelines 2000.</p>	<p>No</p> <p>It is not considered that the replanting will impact water quality.</p> <p>The SAC is located upstream of the proposed replanting site.</p>	<p>No</p> <p>Significant habitat or species fragmentation impacts are not foreseen.</p>

9.4.9. The Stage 1 Screening for Appropriate Assessment identified that there are 5 European sites on which there is the possibility of a significant effect arising from the proposed development.

- Connemara Bog Complex SAC (Site Code: 002034)
- Connemara Bog Complex SPA (Site Code: 004181)
- Lough Corrib SAC (Site Code: 000297)
- Lough Corrib SPA (Site Code: 004042)
- Inner Galway Bay Complex SPA (Site Code: 004031)

9.5. **Conclusion on Stage 1 Screening:**

9.5.1. As part of my consideration of the proposed development, the Board will note that I have also referred to previous Board decisions which relate to the wider Galway Wind Park and associated decisions relating to wind energy projects in the vicinity of the site. I also note that the ongoing monitoring programmes for the wider Galway Wind Park have informed the current NIS. Based on this consideration, together with the information available on the NPWS website, the scale and nature of the proposed development and likely effects, separation distance and functional relationship between the proposed works and the European sites, their conservation objectives and taken in conjunction with my inspection of the site and the surrounding area, I am satisfied that the following sites can be screened out from further assessment:

- Ross Lake & Wood SAC (Site Code: 001312)
- Gortnandarragh Limestone Pavement SAC (Site Code: 001271)
- Kilkieran Bay & Islands SAC (Site Code: 002111)
- Galway Bay Complex SAC (Site Code: 000268)
- Maumturk Mountains SAC (Site Code: 002008)
- Lough Mask SPA (Site Code: 004062)
- Drumalough Bog Complex SAC (Site Code: 002338)
- Carrowbehy / Caher SAC (Site Code: 000597)

- Cloonchambers Bog SAC (Site Code: 000600)
- Errit Lough SAC (Site Code: 000607)
- Derrinea Bog SAC (Site Code: 000604)
- Corliskea / Trien / Cloonfeliv Bog SAC (Site Code: 002110)
- Urlaur Lakes SAC (Site Code: 001571)
- Bellanagare Bog SAC (Site Code: 000592)
- Coolcam Turlough SAC (Site Code: 000218)
- Tullaghanrock Bog SAC (Site Code: 002354)
- Williamstown Turloughs SAC (Site Code: 002296)
- Bellanagare Bog SPA (Site Code: 004105)
- Lough Gara SPA (Site Code: 004048)

9.5.2. It is further reasonable to conclude, on the basis of the information on the file, which I consider adequate in order to issue a screening determination, that the proposed development, either individually or in combination with other plans or projects would not be likely to have a significant effect on the above European sites, in view of the sites' conservation Objectives and that a Stage 2 Appropriate Assessment is not required in respect of these sites.

9.5.3. The NIS identified the potential impacts on qualifying features, conservation interests and conservation objectives in Section 7 and notes that the indirect impacts on SAC sites are primarily related to water quality. There are four potential indirect impacts on the conservation objectives of nearby SPAs identified as follows:

- Mortality due to collision with turbines
- Disturbance of breeding / wintering birds
- Displacement (site avoidance by foraging birds / barrier effect)
- Poor water quality impacts (habitats / foraging birds).

9.5.4. In light of the above, a stage 2 Appropriate Assessment was carried out in relation to the following European Sites:

- Connemara Bog Complex SAC (Site Code: 002034)

- Connemara Bog Complex SPA (Site Code: 004181)
- Lough Corrib SAC (Site Code: 000297)
- Lough Corrib SPA (Site Code: 004042)
- Inner Galway Bay Complex SPA (Site Code: 004031)

The potential impacts (direct / indirect and in-combination effects) of the development on the site are examined in light of each of the site's conservation objectives.

9.6. Stage 2 Appropriate Assessment

9.6.1. The Qualifying Interests for the relevant European Sites are set out below.

European Site	Qualifying Interests
Connemara Bog Complex SAC (Site Code: 002034)	1065 Marsh Fritillary <i>Euphydryas aurinia</i> 1106 Salmon <i>Salmo salar</i> 1150 Coastal lagoons* 1170 Reefs 1355 Otter <i>Lutra lutra</i> 1833 Slender Naiad <i>Najas flexilis</i> 3110 Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) 3130 Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> 3160 Natural dystrophic lakes and ponds 3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation 4010 Northern Atlantic wet heaths with <i>Erica tetralix</i>

	<p>4030 European dry heaths</p> <p>6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)</p> <p>7130 Blanket bogs (* if active bog)</p> <p>7140 Transition mires and quaking bogs</p> <p>7150 Depressions on peat substrates of the Rhynchosporion</p> <p>7230 Alkaline fens</p> <p>91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p>
<p>Lough Corrib SAC (Site Code: 000297)</p>	<p>1029 Freshwater Pearl Mussel <i>Margaritifera margaritifera</i></p> <p>1092 White-clawed Crayfish <i>Austropotamobius pallipes</i></p> <p>1095 Sea Lamprey <i>Petromyzon marinus</i></p> <p>1096 Brook Lamprey <i>Lampetra planeri</i></p> <p>1106 Salmon <i>Salmo salar</i></p> <p>1303 Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i></p> <p>1355 Otter <i>Lutra lutra</i></p> <p>1393 Slender Green Feather-moss <i>Drepanocladus vernicosus</i></p> <p>1833 Slender Naiad <i>Najas flexilis</i></p> <p>3110 Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)</p> <p>3130 Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i></p>

	<p>3140 Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.</p> <p>3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation</p> <p>6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites)</p> <p>6410 <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)</p> <p>7110 Active raised bogs</p> <p>7120 Degraded raised bogs still capable of natural regeneration</p> <p>7150 Depressions on peat substrates of the Rhynchosporion</p> <p>7210 Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i></p> <p>7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)</p> <p>7230 Alkaline fens</p> <p>8240 Limestone pavements</p> <p>91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p> <p>91D0 Bog woodland</p>
<p>Connemara Bog Complex SPA (Site Code: 004181)</p>	<p>A017 Cormorant <i>Phalacrocorax carbo</i></p> <p>A098 Merlin <i>Falco columbarius</i></p> <p>A140 Golden Plover <i>Pluvialis apricaria</i></p> <p>A182 Common Gull <i>Larus canus</i></p>

<p>Lough Corrib SPA (Site Code: 004042)</p>	<p>A051 Gadwall <i>Anas strepera</i> A056 Shoveler <i>Anas clypeata</i> A059 Pochard <i>Aythya ferina</i> A061 Tufted Duck <i>Aythya fuligula</i> A065 Common Scoter <i>Melanitta nigra</i> A082 Hen Harrier <i>Circus cyaneus</i> A125 Coot <i>Fulica atra</i> A140 Golden Plover <i>Pluvialis apricaria</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A182 Common Gull <i>Larus canus</i> A193 Common Tern <i>Sterna hirundo</i> A194 Arctic Tern <i>Sterna paradisaea</i> A395 Greenland White-fronted Goose <i>Anser albifrons flavirostris</i></p>
<p>Inner Galway Bay Complex SPA (Site Code: 004031)</p>	<p>A003 Great Northern Diver <i>Gavia immer</i> A017 Cormorant <i>Phalacrocorax carbo</i> A028 Grey Heron <i>Ardea cinerea</i> A046 Brent Goose <i>Branta bernicla hrota</i> A050 Wigeon <i>Anas penelope</i> A052 Teal <i>Anas crecca</i> A056 Shoveler <i>Anas clypeata</i> A069 Red-breasted Merganser <i>Mergus serrator</i> A137 Ringed Plover <i>Charadrius hiaticula</i> A140 Golden Plover <i>Pluvialis apricaria</i> A142 Lapwing <i>Vanellus vanellus</i> A149 Dunlin <i>Calidris alpina alpina</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A160 Curlew <i>Numenius arquata</i></p>

	A162 Redshank <i>Tringa totanus</i>
	A169 Turnstone <i>Arenaria interpres</i>
	A179 Black-headed Gull <i>Chroicocephalus ridibundus</i>
	A182 Common Gull <i>Larus canus</i>
	A191 Sandwich Tern <i>Sterna sandvicensis</i>
	A193 Common Tern <i>Sterna hirundo</i>
	A999 Wetlands

Connemara Bog Complex Special Area of Conservation (Site Code 002034)

- 9.6.2. The Connemara Bog Complex SAC is located approximately 52m to the west of proposed turbine T28 and 108m from T30. The NPWS Site Synopsis for the SAC notes that the Connemara Bog Complex SAC is a large site encompassing the majority of the south Connemara lowlands in Co. Galway. The site is bounded to the north by the Galway–Clifden road and stretches as far east as the Moycullen–Spiddal road. The site supports a wide range of habitats, including extensive tracts of western blanket bog, which form the core interest, as well as areas of heath, fen, woodlands, lakes, rivers and coastal habitats. The Connemara Bog Complex is characterised by areas of deep peat surrounded by rocky granite outcrops covered by heath vegetation. However, the main habitat within this site is lowland Atlantic blanket bog.
- 9.6.3. Both oligotrophic and dystrophic lakes are found within Connemara Bog Complex SAC, with the greatest concentration in the west of the site. The footprint of the proposed development is within the Owenboliska catchment and a number of the watercourses associated with the proposed development site drain into the water habitats for which the SAC is designated. The rare species Slender Naiad (*Najas flexilis*) and Pillwort (*Pilularia globulifera*) have both been recorded from oligotrophic lakes at this site however, Slender Naiad has not been located in the Owenboliska catchment.
- 9.6.4. Nine species protected under the Flora (Protection) Order, 2015, occur within this site. All are also listed in the Irish Red Data Book, and Slender Naiad is listed on

Annex II of the E.U. Habitats Directive. The Annex II butterfly species, Marsh Fritillary, is known to occur at this site. Atlantic Salmon, a species listed under Annex II of the E.U. Habitats Directive, occurs in many of the rivers within the site. Otter have been recorded as occurring in the Connemara Bog Complex.

9.6.5. The site is of national importance for wintering populations of Greenland Whitefronted Goose. There is an internationally important breeding area for Cormorants at Lough Scannive and Golden Plover, a species listed on Annex I of the E.U. Birds Directive, nests at up to four locations in the site. Another Annex I species known to be present in the site is Merlin. Lough Naskanniva is an important inland breeding site for Common Terns and Choughs, both of which are also Annex I species under the E.U. Birds Directive. The Connemara Bog Complex SAC site is selected for the habitats and species listed in Annex I and Annex II of the EU Habitats Directive and identified above in Section 9.4.1 of this report. The main damaging operations and threats in the Connemara Bog Complex are peat cutting, over-grazing and afforestation.

9.6.6. Detailed Conservation Objectives for the Connemara Bog Complex SAC (Site Code 002034) are included in the NPWS Conservation Objectives Series for the site, dated October 2015, with the overall objective being to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been designated.

- To maintain the favourable conservation condition of Coastal lagoons; Reefs; Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*); Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea*; Natural dystrophic lakes and ponds; Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation; Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*); Old sessile oak woods with *Ilex* and *Blechnum* in Connemara Bog Complex SAC.
- To restore the favourable conservation condition of Northern Atlantic wet heaths with *Erica tetralix*; European dry heaths; Blanket bogs; Transition mires and quaking bogs; Depressions on peat substrates of the Rhynchosporion; Alkaline fens; in Connemara Bog Complex SAC.

- To maintain the favourable conservation condition of Marsh Fritillary, Otter and Slender Naiad in Connemara Bog Complex SAC.
- To restore the favourable conservation condition of Atlantic Salmon in Connemara Bog Complex SAC.

Lough Corrib Special Area of Conservation (Site Code 000297)

- 9.6.7. The Lough Corrib SAC is located approximately 2.4km to the north east of proposed turbine T9 and 3.6km north of Ardderroo Substation. The subject development site also lies within the catchment area for the SAC. The NPWS Site Synopsis for the SAC notes that Lough Corrib is situated to the north of Galway city and is the second largest lake in Ireland, with an area of approximately 18,240 ha (the entire site is 20,556 ha). The lake can be divided into two parts: a relatively shallow basin, underlain by Carboniferous limestone, in the south, and a larger, deeper basin, underlain by more acidic granite, schists, shales and sandstones to the north. A number of rivers are included within the SAC as they are important for Atlantic Salmon. In addition to the rivers and lake basin, adjoining areas of conservation interest, including raised bog, woodland, grassland and limestone pavement, have been incorporated into the site.
- 9.6.8. The site supports a wide range of habitats, including 15 habitats which are listed as Annex I habitats in the EU Habitats Directive of which 6 are priority habitats. The site is also designated for 9 Annex II species, including the Freshwater Pearl Mussel, White-clawed Crayfish, Sea and Brook Lamprey, Atlantic Salmon, otter and Lesser Horseshoe Bat. The lake is also rated as an internationally important site for waterfowl, including Annex I Species of the EU Birds Directive. Lough Corrib is also considered one of the best sites in the country for Otter due to the size of the lake and the associated rivers and streams as well as the generally high quality of the habitats. Atlantic Salmon use the lake and rivers as spawning grounds and the lake supports a population of Sea Lamprey. A summer roost of Lesser Horseshoe Bat, another Annex II species, occurs within the site - approximately 100 animals were recorded here in 1999.
- 9.6.9. The main threats to the quality of this site are from water polluting activities resulting from intensification of agricultural activities on the eastern side of the lake, uncontrolled discharge of sewage which is causing localised eutrophication of the

lake, and housing and boating development, which is causing the loss of native lakeshore vegetation. The raised bog habitats are susceptible to further degradation and drying out due to drainage and peat cutting and, on occasions, burning. The bat roost is susceptible to disturbance or development. Despite these ongoing issues, however, Lough Corrib is one of the best examples of a large lacustrine catchment system in Ireland, with a range of habitats and species still well represented.

9.6.10. Detailed Conservation Objectives for the Lough Corrib SAC (Site Code 000297) are included in the NPWS Conservation Objectives Series for the site, dated April 2017, with the overall objective being to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been designated.

- To restore the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*), Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoëto-Nanojuncetea*; Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp; Active raised bogs*; Freshwater Pearl Mussel; Sea Lamprey; Lesser Horseshoe Bat; Slender Naiad in Lough Corrib SAC.
- To maintain the favourable conservation condition of Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation; Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites); *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*); Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*; Petrifying springs with tufa formation (*Cratoneurion*)*; Alkaline fens; Limestone pavements*; Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles; Bog woodland*; White-clawed Crayfish; Brook Lamprey; Atlantic Salmon; Otter; Slender Green Feather-moss in Lough Corrib SAC.
- The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active

raised bogs (7110) and a separate conservation objective has not been set in Lough Corrib SAC.

- Depressions on peat substrates of the Rhynchosporion: is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Lough Corrib SAC

Connemara Bog Complex Special Protection Area (Site Code 004181)

- 9.6.11. The Connemara Bog Complex SPA is located approximately 52m to the west of proposed turbine T28 and 108m from T30. The NPWS Site Synopsis for the SPA notes that the Connemara Bog Complex SPA is a large site encompassing the majority of the south Connemara lowlands of Co. Galway. It is characterised by areas of deep peat surrounded by heath-covered rocky outcrops. The deeper peat areas are often bordered by river systems and the many oligotrophic lakes that occur, resulting in an intricate mosaic of various peatland/wetland habitats and vegetation communities; these include Atlantic blanket bog with hummock/hollow systems, inter-connecting pools, Atlantic blanket bog pools, flushes, transition and quaking mires, as well as freshwater marshes, lakeshore, lake and river systems.
- 9.6.12. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Cormorant, Merlin, Golden Plover and Common Gull. Lough Scannive, located within Roundstone Bog, supports a nationally important breeding population of Cormorant (160 breeding pairs in 2001). Other breeding birds using the site include Merlin and Golden Plover. The site is also utilised by a wintering population of Greenland White-fronted Goose; small flocks of up to 30 birds have been recorded at various locations within the site.
- 9.6.13. Connemara Bog Complex SPA is of high ornithological importance, in particular for its nationally important breeding populations of Cormorant, Merlin, Golden Plover and Common Gull. It is of note that three of the regularly occurring species, Greenland White-fronted Goose, Merlin and Golden Plover, are listed on Annex I of the E.U. Birds Directive.
- 9.6.14. No detailed Conservation Objective have been prepared for the Connemara Bog Complex SPA (Site Code 004181). The overall objective for the site is to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interest for this SPA.

Lough Corrib Special Protection Area (Site Code 004042)

- 9.6.15. Lough Corrib is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Greenland White-fronted Goose, Gadwall, Shoveler, Pochard, Tufted Duck, Common Scoter, Hen Harrier, Coot, Golden Plover, Black-Headed Gull, Common Gull, Common Tern and Arctic Tern. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetlands & Waterbirds.
- 9.6.16. It is an internationally important site that regularly supports in excess of 20,000 wintering birds including an internationally important population of Pochard. The site also supports nationally important populations of wintering Greenland White-fronted Goose as well as a number of other species. In winter, nationally important numbers of Hen Harrier also utilise the site as a communal roost. Lough Corrib is the most important site in the country for breeding Common Scoter. Its populations of breeding gulls and terns are also notable, with nationally important numbers of Black-headed Gull, Common Gull, Common Tern and Arctic Tern occurring.
- 9.6.17. No detailed Conservation Objective have been prepared for the Lough Corrib SPA (Site Code 004042). The overall objectives for the site are
- To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interest for this SPA.
 - To maintain or restore the favourable conservation condition of the wetland habitat at Lough Corrib SPA as a resource for the regularly occurring migratory waterbirds that utilise it.

Inner Galway Bay Complex Special Protection Area (Site Code 004031)

- 9.6.18. The Inner Galway Bay SPA is a very large, marine-dominated site situated on the west coast of Ireland. The inner bay is protected from exposure to Atlantic swells by the Aran Islands and Black Head. The long shoreline is noted for its diversity, and comprises complex mixtures of bedrock shore, shingle beach, sandy beach and fringing salt marshes. Intertidal sand and mud flats occur around much of the

shoreline, with the largest areas being found on the sheltered eastern coast between Oranmore Bay and Kinvarra Bay.

- 9.6.19. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for a number of species, and the E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. The SPA supports an excellent diversity of wintering wetland birds, with divers, grebes, cormorants, dabbling duck, sea duck and waders all well represented. There are internationally important wintering populations of Great Northern Diver and Light-Bellied Brent Goose and nationally important wintering populations of an additional sixteen species. The site provides both feeding and roost sites for most of the species.
- 9.6.20. The site has several important populations of breeding birds, most notably colonies of Sandwich Tern and Common Tern. A large Cormorant colony occurs on Deer Island. Inner Galway Bay SPA is of high ornithological importance with two wintering species having populations of international importance and a further sixteen wintering species having populations of national importance. The breeding colonies of Sandwich Tern, Common Tern and Cormorant are also of national importance. Also, of note is that six of the regularly occurring species are listed on Annex I of the E.U. Birds Directive, Inner Galway Bay is a Ramsar Convention site and part of the Inner Galway Bay SPA is a Wildfowl Sanctuary.
- 9.6.21. Detailed Conservation Objectives for the Inner Galway Bay SPA (Site Code 004031) are included in the NPWS Conservation Objectives Series for the site, dated May 2013, with the overall objective being to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been designated.
- To maintain the favourable conservation condition of species in the Inner Galway Bay SPA which is defined by lists of attributes and targets including long term population trend stable or increasing, no significant decline in populations, no significant decrease in the range, timing and intensity of use of areas used by a number species, other than that occurring from natural

patterns of variation and human activities should occur at levels that do not adversely affect breeding population of species.

- To maintain the favourable conservation condition of wetland habitat in the SPA as a resource for the regularly occurring migratory waterbirds that utilise it. The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 13,267ha, other than that occurring from natural patterns of variation.

9.7. Potential Significant Effects

9.7.1. Potential significant effects of the proposed development on qualifying features are considered in section 7.8 of the NIS. The significance of the potential effects was considered through the use of a number of key indicators as follows:

- Habitat loss / alteration
- Habitat or species fragmentation.
- Water quality and resource
- Disturbance and / or displacement of species
- Collision

Where qualifying features of designated sites may be negatively affected by the proposed development, mitigation measures are proposed. In this regard the following is relevant:

- 9.7.2. **Habitat loss / alteration** - There shall be no direct loss of protected habitats within any Natura 2000 site. There is potential that aquatic habitats within the down-slope streams / water courses may be indirectly altered in the event of pollution or sediment, primarily during the construction phase. A reduction in water quality due to chemicals or other substances could potentially impact on the habitats that support aquatic species such as spawning salmon and lamprey, white-clawed crayfish and juvenile mussels in the Connemara Bog Complex and Lough Corrib SACs.
- 9.7.3. **Habitat or species fragmentation** - Habitat or species fragmentation is defined as 'reduction and isolation of patches of natural environment' usually due to external disturbances that alters the habitat and 'creates isolated or tenuously connected

patches of the original habitat'. The effects of such fragmentation can have a detrimental impact on the resilience or robustness of the populations, reducing overall species diversity and altering species abundance. The proposed development will not result in the direct loss of habitat within any Natura 2000 site. The development, in the absence of the implementation of mitigation measures, has the potential to impact habitats due to a potential risk to water quality which would have indirect impacts on the conservation status of habitats and species afforded protection under the EU Habitats Directive.

9.7.4. **Water Quality & resource** – The subject site drains to the Connemara Bog Complex SAC and SPA, as well as the Lough Corrib SAC and SPA. Impacts to water chemistry could have potential indirect impacts on the conservation interests of the Natura 2000 sites. The installation of the proposed underground cable route options will require a number of stream / river crossings and a number of drainage ditch crossings. The design of the cable route options will not require in stream works, thereby reducing the potential for impacts to water quality. Potential significant impacts on aquatic ecology – without mitigation include:

- Potential discharge into downstream watercourses
 - with suspended solids, due to runoff of peat/subsoil from construction / excavation areas / peat slippage.
 - With nutrients due to ground disturbance during construction phase.
 - Through spillage of cementitious material.
 - With oils, fuels or lubricants due to runoff from operating machinery or refuelling operations.
 - During construction phase, with other substances such as, wastewater from wash facilities etc.
- Potential discharge into watercourses with surface drainage water from paved areas and road surfaces, during the operational phase of the project.

9.7.5. As the proposed windfarm is located on peatland, a geotechnical impact assessment was carried out to inform the design, and infrastructure has been located on areas of low peat stability risk areas. The perceived risk level associated with the proposed turbine locations is negligible or acceptable and the probability of a slide occurring is

extremely unlikely subject to the implementation of mitigation measures. I note that the applicant references the peat stability assessment which was prepared as part of the original planning application for the windfarm developments at the site.

9.7.6. **Disturbance and / or displacement of species** – During the construction phase, with increased activities and personnel at the site, there is potential for disturbance or displacement impacts. Impacts on water quality could also lead to disturbance of key features of interest. The main risk of disturbance / displacement during the operation of the windfarm relates to the movement of the turbine blades, maintenance operations, and the presence of personnel and vehicles on the site.

9.7.7. The following species of conservation interest associated with the Special Areas of Conservation are potentially impacted upon:

- Connemara Bog Complex SAC:
 - Marsh Fritillary
 - Otter
 - Salmon
 - Slender Naiad
- Lough Corrib SAC:
 - Freshwater Pearl Mussel
 - White-clawed Crayfish
 - Sea Lamprey
 - Brook Lamprey
 - Salmon
 - Lesser Horseshoe Bat
 - Otter
 - Slender Naiad

Potential Direct Effects on SACs

- 9.7.8. No part of the proposed development encroaches into any SAC site and as such, the development will not result in the direct loss, fragmentation or interference with any habitats for which the SACs are designated.

Potential Indirect Effects on SACs

- 9.7.9. There is potential for indirect effects on the SACs in terms of the aquatic habitats and the species they support, Salmon, Freshwater Pearl Mussel, White-clawed Crayfish, Sea Lamprey, Brook Lamprey and Slender Naiad, due to a reduction in water quality due to chemicals or other substances entering watercourses during the construction, operation and decommissioning phases of the development. Risks include siltation of gravel beds suitable for spawning salmon and lamprey, white-clawed crayfish and juvenile mussels in the Connemara Bog Complex and Lough Corrib SACs which would reduce the availability of the habitat.
- 9.7.10. In terms of the Annex II species, the Marsh Fritillary, the NIS notes that no optimal habitat occurs within the Cloosh or Seecon Windfarm sites, but that some patches of devil's bit scabious were recorded along the road margins to the south of the site boundary. It was concluded, following a dedicated marsh fritillary survey in late May 2018 that the habitats are not optimal for the butterfly. It is considered that the proposed development will not result in adverse effects on the Conservation Objectives for this species within the SAC site as a result of the proposed development during the construction phase. Once operational, the bare areas of the site will be allowed to re-vegetate naturally to allow devil's bit scabious to establish. This may provide for more optimal habitat for the butterfly.
- 9.7.11. In terms of the impact on Otter, the NIS submits that the streams immediately draining the site are not optimal for foraging otters and no evidence of the species was observed during the survey of the site. During the construction phase, fugitive noise from machinery and human activity has the potential to disturb or displace otters. A significant adverse impact could occur in the event of a significant fish kill. It is noted however, that the site is located within an existing windfarm environment which operates alongside forestry operations. It is not anticipated that the operational phase will result in significant disturbance / displacement of otters.

9.7.12. The Lesser Horseshoe Bat is a Qualifying Interest for the Lough Corrib SAC, which is located approximately 2.4km to the north of proposed T9. The NIS however, notes that the known locations of the Lesser Horseshoe Bat within the SAC is over 12km to the north of the nearest turbine, with the population, and its associated foraging area located on the northern shore of Lough Corrib. No evidence of the bat was recorded within the subject site during the bat surveys. Disturbance or displacement of the species is unlikely to occur as a result of construction activity or the operation of the windfarm as the site is located well outside the zone of influence for the species, noted to be 2.5km. I will address the potential for collision further in this report.

9.7.13. In terms of impacts on the Special Protection Areas, Connemara Bog Complex SPA, Lough Corrib SPA and Inner Galway Bay SPA, the Board will note that the subject development site is located within an existing and operational wind energy development, known as Galway Wind Park (GWP). In the context of the site location, the following bird species are potentially impacted upon:

- Connemara Bog Complex SPA:
 - Cormorant
 - Merlin
 - Golden Plover
- Lough Corrib SPA:
 - Golden Plover
 - Hen Harrier
 - Greenland white-fronted goose
- Inner Galway Bay SPA:
 - Cormorant
 - Golden Plover
 - Curlew

In terms of detailed conservation objectives for the 3 SPA sites, the Board will note that Detailed Conservation Objectives exist for the Lough Corrib SPA and the Inner Galway Bay SPA, but not for the Connemara Complex SPA.

Potential Direct Effects on SPAs

9.7.14. No part of the proposed development encroaches into any SPA sites and the Board will note that most likely potential impacts on bird species during construction are considered to be disturbance of nesting or wintering birds due to human activity and the operation of machinery. Direct impacts to birds during the operational phase of the windfarm, other than the collision risk, is the presence of, or noise from the turbines.

Potential Indirect Effects on SPAs

9.7.15. The Cormorant is a QI of both the Connemara Bog Complex SPA and the Inner Galway Bay SPA. Lough Scannive, located within Roundstone Bog approximately 35km to the west of the subject site, supports a nationally important breeding population – 160 pairs in 2001. During the Operational Phase Avian Monitoring at Cloosh and Seecon Windfarm study areas, a number of individual observations were made of the Cormorant using the lakes to the south of the site. The NIS considers that the species could fly over the site during the construction phase while en-route to other wetland sites in the greater area.

9.7.16. In terms of the operational phase, the NIS refers to other windfarm developments in the country where post-construction seabird monitoring has been undertaken, Wexford in 2003, which showed that Cormorants completely avoided the windfarm and flew around it in a wide berth. In 2012, subsequent observations at the same windfarm showed that the species flew between the turbines at rotor height or above, suggesting that the species habituated to the new landmarks. The presence of turbines can also have a barrier effect which excludes species and thereby resulting in habitat loss. It is noted that the proposed development avoids lakes and that the lakes extending away from the site do not support the Cormorant in any great numbers.

9.7.17. In terms of the Merlin, the NIS notes that the species was seen infrequently during the operational phase avian monitoring at the Cloosh and Seecon Windfarm study areas, associated with the wider Galway Wind Park (GWP) development. None of the observations occurred within the site and given the lack of optimal habitat within the development site itself, the potential for significant disturbance / displacement impacts are not considered significant. During the operation of windfarms, studies

have not detected significant displacement of raptor species, with some studies showing changes to ranges in order to avoid windfarms, and others showing birds hunting between turbines.

- 9.7.18. With regard to Golden Plover, no suitable breeding habitat occurs for this species within the development site with breeding Golden Plover in the Connemara region confined to the Connemara Bog Complex SPA with the traditional wintering (feeding) grounds at Lough Corrib SPA. The species is very site faithful, breeding at the same site every year. Based on the results of ongoing operational phase avian monitoring at the site, disturbance and the fact that there will be no direct loss of suitable habitat, disturbance or displacement is unlikely.
- 9.7.19. All surveys carried out at the site, including baseline surveys in 2005/2006 and 2008/2009 and ongoing operational phase avian monitoring at GWP in 2016/2017 and 2017/2018, recorded low numbers of Golden Plover in the habitats extending away from the development site. In addition, it is noted that the subject site lies within an operational windfarm where ample flight corridors between turbines and windfarms have been designed into the permitted site layouts. It is also noted that the species fly at high altitudes and small flocks observed over / in proximity to the existing windfarms were above turbine tip-height. The movement of the Golden Plover will not be affected as a result of the proposed windfarm.
- 9.7.20. With regard to other bird species of Special Conservation Interest, the Common Gull, was observed in low numbers. Black-headed gull, tufted duck and Teal were also recorded in low numbers using the lakes to the south of the proposed development site and a small number of Grey Heron were recorded at the wetland habitats extending from the site. The lakes within the Connemara Bog Complex SPA site provide suitable breeding grounds for these birds and the design of the windfarm has sought to avoid lakes. The proposed development does not occur on suitable breeding habitats and no significant disturbance or displacement impacts during the construction or operational phases of the development are expected.
- 9.7.21. The Hen Harrier is a species of Conservation Interest associated with the Lough Corrib SPA, with a number of hen harrier observations made during operational phase avian monitoring, during the winter survey periods at both the Cloosh and Seecon Windfarm study areas. No winter roost sites were observed during dedicated

roost surveys at the overall study area with no observations of the species during breeding season. The site does not include optimal habitat and it is concluded that the development will not result in significant disturbance or displacement impacts arising during the construction phase of the development. I will discuss the potential for collision risk associated with the Hen Harrier further below.

- 9.7.22. The Greenland white-fronted goose, a species of Conservation Interest for the Lough Corrib SPA, is known to occur during the winter months within the Connemara Bog Complex SPA. Surveys carried out resulted in low numbers of the species being observed at the study area. A small number of the birds were observed on occasion foraging shoreline / bogland extending from the lakes to the south of the proposed development site. The NIS submits that the Greenland white-fronted goose could fly over the site on occasions and /or use the blanket bog extending from the site. The proposed turbines are situated in conifer plantation which is not an optimal habitat for this species, and it is considered that any disturbance / displacement of the species during the construction phase would be slight, temporary and not significant.
- 9.7.23. The Curlew is a species of Conservation Interests for the Inner Galway Bay SPA which lies approximately 17km to the southeast of the nearest proposed turbine T36. During the construction phase, there is potential for this species to fly over the site on occasion however, given the distance between the SPA and the subject site, significant disturbance or displacement of the Curlew is not considered to be significant.
- 9.7.24. **Collision** – A direct impact associated with a windfarm development on certain species of special interest within SPAs is collision resulting in bird mortality. The subject site is located within an area where windfarms have been developed and the Board will note that permission has been granted for the development of turbines with a tip height of 140.5m on the site of 6 of the proposed turbine locations, with 3 additional turbines permitted within 16m of the original position. The proposed turbines will have a tip height of 156m, an increase of 15.5m overall. The evidence in relation to collision risk indicates that the effects are species and site specific and not all species are equally sensitive to collision. Larger birds such as raptors and wildfowl are considered to be at greater risk.

- 9.7.25. Merlin hunt low, between 2-5m above ground level and adjacent to hedgerows and trees between cutover bog banks. Their aerial agility puts them at lower risk of collision than larger birds of prey. While the site contains some suitable foraging habitat around the periphery of the site for Merlin, low numbers of the species were observed during the surveys. It is considered that the change in the rotor sweep from the permitted turbines will not result in significant collision impacts on Merlin.
- 9.7.26. Hen Harrier are known to fly low when hunting and fly at higher elevations at other times. Juvenile and newly fledged hen harriers are considered to be most at risk of collision. No breeding activity was observed during the surveys at the subject site, or surrounding areas and there are no known winter roost sites occurring. Low numbers of hen harriers were observed at the subject site and all observations of the species were of flight heights of less than 15m. The NIS concludes that it is not considered that the change in the rotor sweep from the permitted turbines will result in significant collision impacts on the species.
- 9.7.27. In relation to other species of conservation interest in proximate SPAs, the avian surveys recorded low numbers of Cormorant, Common Gull, Tufted duck, black-headed gull, Grey Heron, Teal and Curlew have been recorded during surveys at the site. These species could potentially fly over the site en-route to other wetland sites in the area with the lakes extending away from the development potentially used by small numbers of breeding common gull. There are no known populations of golden plover using the area and while waterfowl and seabirds are most at risk of collision where they occur in high concentrations, ongoing monitoring of the site indicates that there is no regular passage of these species through the Galway Wind Park site, including the development site.
- 9.7.28. In addition to the birds and the potential collision risk, the Board will note that the Lesser Horseshoe Bat is a species which is an Annex II species, and qualifying interest for the Lough Corrib SAC. I have noted above in section 9.5.12 of this report that surveys of the site did not record any evidence of the Lesser Horseshoe Bat within the site. The known locations of the Lesser Horseshoe Bat within the SAC is over 12km to the north of the nearest turbine, with the population, and its associated foraging area located on the northern shore of Lough Corrib. In addition to the above, commuting bats generally fly 1-2m from the ground and forage mainly in dense woodland. The site of the proposed development does not include optimal

habitats for foraging Lesser Horseshoe Bat and it is concluded that the development will not result in significant disturbance or collision impacts on this protected species.

Mitigation Measures

9.7.29. Mitigation measures are proposed to address the potential adverse effects of the development to ensure that the development will not adversely affect the identified European Sites or the conservation status of protected habitats and species they support. The NIS notes that the construction of the proposed development has the potential to cause indirect impacts to aquatic / semi aquatic habitats and species in the rivers and streams protected within downstream Natura 2000 sites. The NIS notes that construction best practice and a number of planned mitigation measures will reduce impacts significantly.

9.7.30. **Mitigation by design** – All aspects of the proposed development and the layout proposed, adopted an ‘avoidance by design’ approach. In this regard, the following is relevant:

- The existing roads infrastructure will be used where possible to ensure avoidance of any ecologically sensitive areas.
- The proposed turbines will be located in least ecologically sensitive areas.
- A hydrological 100m buffer zone has been applied to avoid impacts at source, at design stage.
- The proposed cable route will be installed beside and within forestry and windfarm access roads for Grid Route Option A or within transitional woodland and open spaces for parts of Grid route Option B.
- No in-stream works will be required for any of the route options.
- The turbines are located in already altered habitat – conifer plantation.
- The site layout was designed following the results, as reviewed and updated, of the peat stability assessment carried out as part of the original application.
- The drainage system has been designed with minimal changes to the existing flow regime across the site.

9.7.31. **Mitigation by Management** – the environmental commitments of the proposed development are to be managed through a Construction and Environmental

Management Plan (CEMP). This plan will be implemented during the construction and early operational phases of the development. The CEMP is included in Appendix 2 of the submitted NIS and includes details for the management of the implementation of mitigation measures as well as monitoring and supervision of measures. The CEMP also includes a suite of environmental controls and management plans which deal with noise, vibration, dust and air control, construction and demolition waste, water quality / sediment and erosion control, fuel and oils management, management of concrete and an Emergency Response Plan.

9.7.32. It is also noted that an Environmental Manager / Ecological Clerk of Works will be employed for the duration of the construction phase and early operation phase to ensure the successful development, implementation and maintenance of the CEMP. The project Ecologist will have the authority to stop construction activity if there is potential for adverse environmental effects other than those predicted and mitigated for. In addition, an Ornithologist will be employed to carry out pre-construction avian surveys and will implement any required demarcation, buffer zones and all avian mitigation measures required as provided for in the EIAR.

9.7.33. In terms of the management of water quality, Chapters 2 and 6 of the EIAR are relevant. Section 8.2.4 of the NIS includes a number of mitigation measures in terms of preventing or reducing pollution incidents arising due to sedimentation, fuel/oils, concrete and wastes / wastewater during the construction phase. Such measures include:

- Control by interception, the release of suspended solids to surface waters and management of site run-off.
- The drainage system will provide for a three-stage treatment train of the discharges as recommended in the SUDs manual and will include –
 - Settlement ponds
 - Diffuse outflow
 - Continuation of flows by natura flow paths via existing forest drains.
- All fuels, lubricants and hydraulic fluids will be kept in secure bunded areas, not withing 50m of watercourses.
- Foul drainage will be removed to a suitable treatment facility.

- Multiple skips will be provided at storage compounds
- Other measures to control water quality are also cited.

In addition to the above, a contingency plan will be prepared, which will include a set of procedures for incidents likely to cause pollution to waters.

9.7.34. Mitigation measures will also be implemented in accordance with the Forestry and Water Quality Guidelines to prevent run-off erosion from forest operations. Tree felling will be carried out under licence and will take place prior to other works associated with the proposed development. Replanting will also be subject to careful planning and management.

9.7.35. The issue of peat stability was considered and addressed at preliminary design stage for the windfarm including the location of access roads and turbines. In terms of the current proposed development, the location of all turbines, except for T9, T30 and T40, remain the same as originally proposed and assessed. The proposed 3 turbines are proposed to be relocated between 6m and 11m from the original locations. The NIS considers that the previous peat stability risk assessments are still valid. It is submitted that in order to reduce the possibility of peat slides, the placement of the soils will be within the footprint of the borrow pits and designated materials storage areas, unless an area specific slope stability assessment has been undertaken.

9.7.36. Chapter 5 of the EIAR deals with Land and Soils and includes an assessment of likely significant impacts of the development including slope failure. The report notes that the 3 turbines to be relocated only slightly from their permitted locations and the turbines, including the hard standing are within the same landslide risk zones as originally assessed. The relocation of the 3 identified turbines is to avoid certain existing cables and to suit existing ground conditions. Section 5.4.3 of the EIAR provides details of mitigation measures specifically for slope failure.

9.7.37. A hazard and risk assessment carried out as part of the overall Cloosh and Seecon Wind Farms determined the likelihood and impacts of potential peat slides and indicate that the calculated risk level of the area of all proposed turbines is 'acceptable' or 'negligible' with the exception of Turbine T30 which is located in an 'undesirable' zone. The probability of a slide occurring, after mitigation, is 'very low' or 'low'. The access roads for T30 have been constructed and the turbine is to be

located uphill of the existing access road. This will act as a barrier to a peat slide and reduce the risk to an acceptable level. The overall residual risk of peat instability is deemed to be 'low'.

- 9.7.38. With regard to invasive species, a survey will be carried out prior to the commencement of works within the project area. Invasive species management methodologies and plans outlining best available techniques (BAT) will be sourced.
- 9.7.39. The NIS identifies that monitoring for birds will be carried out prior to and during the construction phases and will continue during the operational phase in line with existing ongoing monitoring at the Galway Wind Park, and in agreement with the NPWS. In terms of water quality, outflow from the drainage and attenuation systems will be monitored, field and laboratory tested on a regular basis during different weather conditions during the construction phase of the project. The operational phase monitoring will be in line with the ongoing water quality monitoring at the site.

Management During Operational Phase

- 9.7.40. The operational phase of the development will operate under the Management Regime of the Galway Wind Park.

Assessment & Conclusion on Potential Significant Effects

- 9.7.41. The Board will note the information submitted in support of the proposed development. The revised NIS, submitted in response to the Planning Authority's further information request, includes and incorporates a final Construction and Environmental Management Plan. All baseline bird or avian surveys have been completed and included in the EIAR submitted with the planning application and the NIS submitted is solely based on the baseline survey completed and on data submitted. The NIS considers the potential impacts to the targets and attributes associated with site specific conservation objectives for the European Sites.
- 9.7.42. Prior to the commencement of any development on site, a reconnaissance survey will be carried out by an onsite ecologist to identify the presence of birds, either foraging, nesting or just frequenting the site. The survey will occur before a contractor moves into an area and prior to groundworks or felling. This precautionary approach will remove risk to the protected species. Surveys will also be completed throughout the construction stage and has been adopted throughout all stages of the development of Galway Wind Park, in agreement with the NPWS.

9.7.43. In addition to the above, the revised NIS includes details of the fuel management plan, wastewater storage and disposal, invasive species management report and peat stability survey which was undertaken as part of the original planning application for the permitted windfarm on the site. The detailed Traffic Management Plan will be finalised in consultation with TII, relevant local authorities, PPP companies and maintenance companies prior to delivery of turbine components.

9.7.44. In terms of potential impacts on habitats and species, the Board will note that the site is not located within any designated Natura 2000 site. The proposed development will not result in the direct loss of habitat protected under the EU directive. Impacts on Annex I habitats and Annex II species associated with the Connemara Bog Complex SAC and the Lough Corrib SAC potentially arise due to changes to water quality due to the construction, operation and decommissioning phases of the development.

In Combination Effects

9.7.45. The revised NIS (section 7.8.7) includes an assessment of the potential cumulative / in-combination effects of other plans and projects within 15km of the site. No significant cumulative impacts are predicted with the plans identified, including:

- Galway County Development Plan 2015-2021
- Galway County Wind Energy Strategy
- Grid Implementation Plan 2017-2022
- Gaeltacht Local Area Plan 2008-2018
- Western River Basin Plans / District datasets / Galway Bay North (Water Framework Directive).

The NIS also identifies other windfarms and non-wind farm projects, including wind energy infrastructure projects within the 15km distance.

9.7.46. The NIS notes that multiple wind farm developments can have cumulative impacts in terms of bird collision mortality. Mortality is generally associated with high numbers of turbines and densities of species and the location of turbines in known migration routes. In the context of the overall wind farm developments in this area of Co. Galway, I am satisfied that they have been designed to avoid potential commuting

routes and foraging grounds for bird species. Based on the baseline surveys carried out and the results of ongoing avian monitoring at the site, together with the fact that no bird carcasses have been found during dedicated carcass searches at the study area to date, the NIS concludes that there will be no cumulative collision impacts on the species of Conservation Interest protected in the nearby SPA sites.

9.7.47. Cumulative barrier effects occur where birds alter their migration flyways or local flight paths to avoid windfarm developments. The wider area does not support a sizeable wintering or breeding population of species of Special Conservation Interest of nearby SPA sites. Significant cumulative barrier impacts on birds, in combination with other developments are unlikely to be significant.

9.7.48. The NIS and EIAR identify that cumulative impacts affecting nearby SACs are limited to in-combination poor water quality impacts and potential disturbance impacts affecting the water-dependent Annex II species and Annex I habitats within the Connemara Bog Complex SAC and the Lough Corrib SAC sites. Impacts on water quality potentially arise during the construction and early operational phases. Forestry poses a risk of eutrophication and increased levels of suspended solids, sediments and nutrients in the rivers and streams draining the site. Deforestation can intensify river flooding due to adverse effects to soil structures and volume. In addition, peat harvesting activities, in combination with other activities may also give rise to potential adverse impacts on water quality, in the absence of mitigation measures.

9.7.49. Having regard to the information set out in therein, I am satisfied that no cumulative impacts arise. I consider the information submitted to the Board is adequate and is sufficient to enable the Board, as the Competent Authority, to carry out an assessment of potential in combination effects for the purposes of Appropriate Assessment.

Residual Impacts

9.7.50. Residual impacts are impacts that remain, once mitigation has been implemented, or impacts that cannot be mitigated. No residual impacts are anticipated subject to the implementation of the mitigation measures detailed above.

Overall Appropriate Assessment Conclusion

9.7.51. In the interests of protecting the conservation objectives of the European Sites, mitigation measures are proposed in section 8 of the submitted NIS as part of the proposed development. Mitigation measures are proposed for both the construction and operational phases of the wind farm development and on implementation, it is submitted that there are no likely residual negative impacts on the identified Natura 2000 sites. It is concluded that the proposed development will not have a significant adverse effect on the integrity of the Natura 2000 Network.

9.7.52. Having regard to the nature of the subject development site, the nature of the proposed development and its location within an existing and operational wind farm development, together with the details presented in the Environmental Impact Assessment Report and Natura Impact Statement, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, I consider it reasonable to conclude on the basis of the information on the file, that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the following Natura 2000 sites, or any other European site, in view of the sites Conservation Objectives:

- Connemara Bog Complex SAC (Site Code: 002034)
- Connemara Bog Complex SPA (Site Code: 004181)
- Lough Corrib SAC (Site Code: 000297)
- Lough Corrib SPA (Site Code: 004042)
- Inner Galway Bay Complex SPA (Site Code: 004031)

10.0 Recommendation

Arising from my assessment of this appeal case I recommend that planning permission should be granted for the proposed amendments to the permitted development for the reasons and considerations set down below, and subject to the attached conditions.

11.0 Reasons and Considerations

Having regard to:

- (a) National Planning Framework and national policy with regard to the development of alternative and indigenous energy sources and the minimisation of emissions from greenhouses gases,
- (b) The Climate Action Plan 2019
- (c) The provisions of the Wind Energy Development Guidelines – Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in June 2006,
- (d) The policies set out in the Regional Planning Guidelines for the West Region 2010-2022, superseded by the Regional Spatial and Economic Strategy – Northern and Western Regional Assembly, 2020-2032
- (e) The policies of the Planning Authority as set out in the Galway County Development Plan 2015-2021 including the Wind Energy Strategy for County Galway,
- (f) The location of the wind farm site in an area which is identified as the “Galway Wind Park” which is designated as the most suitable part of the County to accommodate wind energy,
- (g) The character of the landscape in the area and of the general vicinity,
- (h) The planning history associated with the site and the pattern of existing and permitted development in the area, including other windfarms,
- (i) The distance to dwellings and other sensitive receptors from the proposed development,

- (j) The Environmental Impact Assessment Report submitted,
- (k) The revised Natura Impact Statement submitted,
- (l) The report of the Inspector.

Proper Planning and Sustainable Development:

It is considered that, subject to compliance with the conditions set out below, the proposed development would be in accordance with the National Planning Framework, the Regional Planning Guidelines for the West Region 2010-2022, superseded by the Regional Spatial and Economic Strategy – Northern and Western Regional Assembly, 2020-2032 and the provisions of the Galway County Development Plan 2015 – 2021 and would not have an unacceptable impact on the landscape, the biodiversity of the area, the residential amenities of the area, and would not adversely affect the archaeological or natural heritage of the area and would be in accordance with the proper planning and sustainable development of the area.

Appropriate Assessment

The Board considered the Screening Report for Appropriate Assessment, the Natura Impact Statement and all other relevant submissions and carried out an appropriate assessment screening exercise and an appropriate assessment in relation to the potential effects of the proposed development on designated European Sites. The Board considered that the information before it was adequate to allow the carrying out of an Appropriate Assessment. In completing the Appropriate Assessment, the Board considered, in particular, the following:

- i. the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,
- ii. the mitigation measures which are included as part of the current proposal, and
- iii. the conservation objectives for the European Sites.

The Board noted that the proposed development is not directly connected with or necessary for the management of a European Site and considered the nature, scale and location of the proposed development, as well as the report of the Inspector.

In completing the appropriate assessment, the Board adopted the report of the Inspector and concluded that, by itself or in-combination with other plans and projects in the vicinity, the proposed development would not be likely to have an adverse effect on any European site in view of the sites' conservation objectives.

Environmental Impact Assessment:

The Board, in accordance with the requirements of Section 172 of the Planning and Development Act 2000, as amended, completed an environmental impact assessment of the proposed development taking account of:

- (a) the nature, scale, location and extent of the proposed development on the site,
- (b) the Environmental Impact Assessment Report (EIAR) and associated documentation submitted in support of the application,
- (c) the planning history associated with the site and the Board's previous Environmental Impact Assessment (EIA) relating to the site,
- (d) the submissions received from the appellants and prescribed bodies, and
- (e) the Inspector's report.

The Board considered that the environmental impact assessment report, supported by the documentation submitted by the applicant, adequately considers alternatives to the proposed development and identifies and describes adequately the direct, indirect, secondary and cumulative effects of the proposed development on the environment. The Board is satisfied that the information contained in the EIAR complies with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU.

The Board agreed with the examination, set out in the Inspector's report, of the information contained in the environmental impact assessment report and associated

documentation submitted by the applicant and submissions made in the course of the application. The Board considered that the main significant direct and indirect effects of the proposed development on the environment are, and would be mitigated, as follows:

- The impacts on residential amenity during the construction and operational phases would be avoided by the implementation of the measures set out in the Environmental Impact Assessment Report (EIAR) and associated outline Construction and Environment Management Plan which include specific provisions relating to the control and management of dust, noise, water quality, traffic movement, noise monitoring and turbine pre-programming, as well as a mitigation strategy to control the level of daily shadow flicker experienced at affected dwellings.
- The impacts on biodiversity during the construction phase include disturbance to birds and bats with potential for collision risk during the operational phase. Changes to water quality potentially impact aquatic habitats and species due to run-off and sedimentation of watercourses. Impacts will be mitigated by the implementation of the measures set out in the Environmental Impact Assessment Report (EIAR) and associated outline Construction and Environment Management Plan which include specific provisions relating to the control and management of water quality bog restoration programme, habitat management measures, pre-construction mammal surveys, bat protection measures, appointment of an Ecological Clerk of Works and a post construction bird monitoring programme.
- The risk of pollution of ground and surface waters during the construction phase which would be mitigated by the implementation of measures set out in the Environmental Impact Assessment Report (EIAR) and associated outline Construction and Environment Management Plan which include a fuel management plan and will restrict all vehicle movements to the areas of hard standing and existing / newly constructed access tracks, as well as specific provisions relating to groundwater, surface water and drainage.
- In terms of visual and landscape Impacts, the proposed development will, if permitted, be located within an existing wind farm development area and will

have limited localised visual impacts. The site is located within a landscape character area which has the capacity to absorb a development of this scale in landscape and visual terms.

The Board completed an environmental impact assessment in relation to the proposed amendments to the permitted development and concluded that, subject to the implementation of the mitigation measures proposed, and subject to compliance with the conditions set out below, the effects of the proposed amendments to the permitted development on the environment, by itself and in combination with other plans and projects in the vicinity, would be acceptable. In doing so, the Board adopted the report and conclusions of the Inspector.

The Board is satisfied that this reasoned conclusion is up to date at the time of taking the decision.

12.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

Reason: In the interest of clarity.

2. All relevant conditions attached to the previous grants of permission associated with the site, ABP ref PL07.239118 (PA ref: 11/429) and PA ref 10/303 refer, shall be strictly adhered to except as may otherwise be required in order to comply with the following conditions.

Reason: In the interest of clarity.

3. The mitigation measures and monitoring commitments identified in the Environmental Impact Assessment Report, and other plans and particulars

submitted with the planning application shall be implemented in full by the developer, except as may otherwise be required in order to comply with the following conditions. The developer shall appoint a person with an appropriate ecological and construction expertise as an environmental manager to ensure that the mitigation measures identified are implemented in full.

Reason: In the interest of clarity and protection of the environment during the construction and operational phases of the proposed development.

4. Prior to commencement of development, a detailed Environmental Management Plan for the construction stage shall be submitted to and agreed in writing with the Planning Authority, generally in accordance with the proposals set out in the Environmental Impact Assessment Report. The Environmental Management Plan shall incorporate the following:
- (a) a detailed plan for the construction phase incorporating, inter alia, construction programme, supervisory measures, noise management measures, construction hours and the management of construction waste;
 - (b) a comprehensive programme for the implementation of all monitoring commitments made in the application and supporting documentation during the construction period;
 - (c) an emergency response plan, and
 - (d) proposals in relation to public information and communication.

The mitigation measures contained in the Natura Impact Statement shall be implemented in full.

Reason: In the interest of clarity and the proper planning and sustainable development of the area and to ensure the protection of the European sites.

5. The developer shall retain the services of a suitably qualified and experienced bird specialist to undertake appropriate annual bird surveys of this site. Details of the surveys to be undertaken and associated reporting requirements shall

be developed following consultation with, and agreed in writing with, the Planning Authority prior to commencement of development. These reports shall be submitted on an agreed date at the end of each monitoring year, with the prior written agreement of the Planning Authority. Copies of the reports shall be sent to the Department of Arts, Heritage and the Gaeltacht.

Reason: To ensure appropriate monitoring of the impact of the development on the avifauna of the area.

6. The developer shall ensure that all plant and machinery used during the works is thoroughly cleaned and washed before delivery to the site to prevent the spread of hazardous invasive species and pathogens.

Reason: In the interests of the proper planning and sustainable development of the area.

7. The period during which the development hereby permitted may be carried out shall be ten years from the date of this order.

Reason: Having regard to the nature and extent of the proposed development, the Board considered it appropriate to specify a period of validity of this permission in excess of five years.

8. This permission shall be for a period of 30 years from the date of the first commissioning of the 9 turbines, the subject of this application.

Reason: To enable the relevant Planning Authority to review the operation of the wind farm in the light of the circumstances then prevailing.

9.
 - a) The wind turbines including masts and blades shall be finished externally in a colour to be agreed in writing with the Planning Authority prior to commencement of development.
 - b) The wind turbines shall be geared to ensure that the blades rotate in the same direction.

- c) No advertising material shall be placed on or otherwise be affixed to any structure on the site without a prior grant of planning permission.
- d) The access tracks within the site shall be surfaced in suitable material acceptable to the Planning Authority, and shall not be hard topped with tarmacadam or concrete.
- e) Roads, hardstanding areas and other hard surfaced areas shall be completed to the written satisfaction of the Planning Authority within three months of the date of commissioning of the wind farm.
- f) Soil, rock and other materials excavated during construction shall not be left stockpiled on-site following completion of works. Excavated areas including the borrow pits and areas of peat placement shall be appropriately restored within three months of the date of commissioning of the windfarm in accordance with details to be submitted to and agree in writing with the Planning Authority.

Reason: In the interest of visual amenity.

10. The operation of the proposed development, by itself or in combination with any other permitted wind energy development, shall not result in noise levels, when measured externally at nearby noise sensitive locations, which exceed:

- (a) Between the hours of 7am and 11pm:
 - i. the greater of 5 dB(A) $L_{90,10min}$ above background noise levels, or 45 dB(A) $L_{90,10min}$, at standardised 10m height above ground level wind speeds of 5m/s or greater
 - ii. 40 dB(A) $L_{90,10min}$ at all other standardised 10m height above ground level wind speeds
- (b) 43 dB(A) $L_{90,10min}$ at all other times.

Prior to commencement of development, the developer shall submit to and agree in writing with the planning authority a noise compliance monitoring programme for the subject development, including any mitigation measures

such as the de-rating of particular turbines. All noise measurements shall be carried out in accordance with ISO Recommendation R 1996 “Assessment of Noise with Respect to Community Response,” as amended by ISO Recommendations R 1996-1. The results of the initial noise compliance monitoring shall be submitted to, and agreed in writing with, the planning authority within six months of commissioning of the wind farm.

Reason: In the interest of residential amenity.

11. The following shadow flicker requirements shall be complied with:
 - (a) The proposed turbines shall be fitted with appropriate equipment and software to control shadow flicker at dwellings to limits specified in the Environmental Impact Assessment Report.
 - (b) Prior to commencement of development, the developer shall submit for the written agreement of the Planning Authority a shadow flicker compliance monitoring programme for the operational wind farm.
 - (c) A report shall be prepared by a suitably qualified person in accordance with the requirements of the Planning Authority, indicating compliance with the above shadow flicker requirements at dwellings. Within 12 months of commissioning of the proposed wind farm, this report shall be submitted to, and agreed in writing with, the Planning Authority. The developer shall outline proposed measures to address any recorded non-compliances, controlling turbine rotation if necessary. A similar report may be requested at reasonable intervals thereafter by the Planning Authority.

Reason: In the interest of residential amenity.

12. In the event that the proposed development causes interference with telecommunications signals, effective measures shall be introduced to minimise interference with telecommunications signals in the area. Details of these measures, which shall be at the developer’s expense, shall be submitted to, and agreed in writing with, the Planning Authority prior to

commissioning of the turbines and following consultation with the relevant authorities.

Reason: In the interest of protecting telecommunications signals and of residential amenity.

13. Details of aeronautical requirements shall be submitted to, and agreed in writing with, the Planning Authority prior to commencement of development. Prior to commissioning of the turbines, the developer shall inform the Planning Authority and the Irish Aviation Authority of the as constructed tip heights and co-ordinates of the turbines and wind monitoring masts.

Reason: In the interest of air traffic safety.

14. Prior to commencement of development, a Transport Management Plan for the construction stage shall be submitted to, and agreed in writing with, the Planning Authority. The traffic management plan shall incorporate details of the road network to be used by construction traffic, including over-sized loads, and detailed arrangements for the protection of bridges, culverts or other structures to be traversed, as may be required. The plan should also contain details of how the developer intends to engage with and notify the local community in advance of the delivery of oversized loads.

Reason: In the interest of traffic safety.

15. (a) Prior to commencement of development, details of the following shall be submitted to, and agreed in writing with the Planning Authority:
- (i) The developer shall prepare design drawings for the L53453 from the junction of the N59 to the site boundary which shall detail and specify the road layout and finishes following the construction stage and include boundary walls, traffic calming details, temporary boundary details, drainage details, signage and road markings.
 - (ii) A condition survey of the roads and bridges along the haul routes shall be carried out at the developer's expense by a suitably qualified person both before and after construction of the proposed development. This

survey shall include a schedule of required works to enable the haul routes to cater for construction-related traffic. The extent and scope of the survey and the schedule of works shall be agreed with the Planning Authority / Authorities prior to commencement of development.

- (iii) Details for the rectification of any construction damage which may arise.
 - (iv) Detailed arrangements for the protection of bridges to be crossed.
 - (v) Detailed arrangements for temporary traffic arrangements / controls on roads.
 - (vi) A phasing programme indicating the timescale within which it is intended to use each public route to facilitate construction of the proposed development.
 - (vii) Within three months of the cessation of the use of each public road and haul route to transport material to and from the site, a road survey and scheme of works detailing works to repair any damage to these routes shall be submitted to the Planning Authority.
- (b) All works arising from the aforementioned arrangements shall be completed at the developer's expense within 12 months of the cessation of each road's use as a haul route for the proposed development.

Reason: To protect the public road network and to clarify the extent of the permission in the interest of traffic safety and orderly development.

16. Water supply and drainage arrangements, including the attenuation and disposal of surface water, shall comply with the requirements of the Planning Authority for such works and services.

Reason: In the interest of public health.

17. (a) The Applicant shall submit details of the collection and disposal of material from the Holding Tank associated with the Control Buildings for the information and record of the Planning Authority on an annual basis.

(b) Only waste collectors holding valid waste collection permits under the Waste Management (Collection permit) Regulations, 2007 (as amended), shall be employed to transport wastewater away from the site.

Reason: In the interest of public health.

18. The developer shall facilitate the archaeological appraisal of the site, including the replacement lands, and shall provide for the preservation, recording and protection of archaeological materials or features which may exist within the site. In this regard, the developer shall:
- (i) notify the relevant Planning Authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, and
 - (ii) employ a suitably-qualified archaeologist prior to the commencement of development. The archaeologist shall assess the site and monitor all site development works. The assessment shall address the following issues:
 - (a) the nature and location of archaeological material on the site, and
 - (b) the impact of the proposed development on such archaeological material.

A report, containing the results of the assessment, shall be submitted to the Planning Authority and, arising from this assessment, the developer shall agree in writing with the Planning Authority details regarding any further archaeological requirements (including, if necessary, archaeological excavation) prior to commencement of construction works. In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation (in-situ or by record) and protection of any archaeological remains that may exist within the site.

19. Prior to the commencement of development, the community gain proposals shall be submitted to and agreed in writing with the Planning Authority.

Reason: In the interest of the proper planning and sustainable development of the area.

20. On full or partial decommissioning of the windfarm, or if the windfarm ceases operation for a period of more than one year, the turbines concerned and all decommissioned structures shall be removed, and foundations covered with soil to facilitate re-vegetation. These reinstatement works shall be completed to the written satisfaction of the relevant Planning Authority within three months of decommissioning or cessation of operation.

Reason: To ensure satisfactory reinstatement of the site upon cessation of the project.

21. Prior to the commencement of any development on site, full details of the proposed grid connection shall be submitted for the agreement, and where necessary, appropriate consent.

Reason: In the interests of proper planning and sustainable development of the area.

22. Prior to commencement of development, the developer shall lodge with the Planning Authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the relevant Planning Authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the relevant Planning Authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the relevant Planning Authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure the satisfactory reinstatement of the delivery route.

23. Prior to commencement of development, the developer shall lodge with the relevant Planning Authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the relevant Planning Authority, to secure the satisfactory reinstatement of the site upon cessation of the project, coupled with an agreement empowering the relevant Planning Authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the relevant Planning Authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure the satisfactory reinstatement of the site.

24. The developer shall pay to Galway County Council a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the Planning Authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000. The contribution shall be paid prior to the commencement of development or in such phased payments as the Planning Authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the Planning Authority and the developer or, in default of such agreement, the matter shall be referred to the Board to determine the proper application of the terms of the Scheme.

Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

A. Considine
Planning Inspector

09th November 2020